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gtatttaggc tttgcctgct tggtgtgatg taagggaaat tgaaagactt 1350
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<213> Homo sapiens
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<223> Signal Peptide
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<220> <221> misc\_feature

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<222> 36-47, 108-113, 166-171,198-203, 207-212
<223> N-myristoylation Sites.
<220>
<221> misc feature
<222> 39-42
<223> Glycosaminoglycan Attachment Site.
<220>
<221> TRANSMEM
<222> 136-152
<223> Transmembrane Domain
<220>
<221> misc_feature
<222> 161-\overline{1}63, 187-190 and 253-256
<223> N-glycosylation Sites.
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 Tyr Ile Phe Ile Thr Gly Cys Asp Ser Gly Phe Gly Asn Leu Ala
Ala Arg Thr Phe Asp Lys Lys Gly Phe His Val Ile Ala Ala Cys
 Leu Thr Glu Ser Gly Ser Thr Ala Leu Lys Ala Glu Thr Ser Glu
Arg Leu Arg Thr Val Leu Leu Asp Val Thr Asp Pro Glu Asn Val
Lys Arg Thr Ala Gln Trp Val Lys Asn Gln Val Gly Glu Lys Gly
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                 110
 Pro Thr Asp Trp Leu Thr Leu Glu Asp Tyr Arg Glu Pro Ile Glu
                 125
Val Asn Leu Phe Gly Leu Ile Ser Val Thr Leu Asn Met Leu Pro
                 140
Leu Val Lys Lys Ala Gln Gly Arg Val Ile Asn Val Ser Ser Val
                 155
Gly Gly Arg Leu Ala Ile Val Gly Gly Tyr Thr Pro Ser Lys
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                 170
Tyr Ala Val Glu Gly Phe Asn Asp Ser Leu Arg Arg Asp Met Lys
                 185
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AND THE STREET, STREET

Ala Phe Gly Val His Val Ser Cys Ile Glu Pro Gly Leu Phe Lys Thr Asn Leu Ala Asp Pro Val Lys Val Ile Glu Lys Lys Leu Ala 215 Ile Trp Glu Gln Leu Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu Gly Tyr Ile Glu Lys Ser Leu Asp Lys Leu Lys Gly Asn Lys Ser Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His 260 270 Ala Leu Thr Ser Leu Phe Pro Lys Thr His Tyr Ala Ala Gly Lys 275 Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala 290 300 Leu Gln Asp Phe Leu Leu Lys Gln Lys Ala Glu Leu Ala Asn 305 315

Pro Lys Ala Val

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gccccttggg ccgtcgccac cactgtagtc atgtacccac cgccgccgcc 150
gccgcctcat cgggacttca tctcggtgac gctgagcttt ggcgagagct 200
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caactgtcga gattgcagcg gaatatgatt ctcttcctcc ttgcctttct 300
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gageggtgat egageetgag eagggeaceg ageteeette aagaagagea 700 gaagtgccca ccaagcctcc cctgccaccg gccaggacac agggcacacc 750 agtgcatctg aactatcgcc agaagggcgt gattgacgtc ttcctgcatg 800 catggaaagg ataccgcaag tttgcatggg gccatgacga gctgaagcct 850 gtgtccaggt ccttcagtga gtggtttggc ctcggtctca cactgatcga 900 cgcgctggac accatgtgga tcttgggtct gaggaaagaa tttgaggaag 950 ccaggaagtg ggtgtcgaag aagttacact ttgaaaagga cgtggacgtc 1000 aacctgtttg agagcacgat ccgcatcctg ggggggctcc tgagtgccta 1050 ccacctgtct ggggacagcc tcttcctgag gaaagctgag gattttggaa 1100 atcggctaat gcctgccttc agaacaccat ccaagattcc ttactcggat 1150 gtgaacatcg gtactggagt tgcccacccg ccacggtgga cctccgacag 1200 cactgtggcc gaggtgacca gcattcagct ggagttccgg gagctctccc 1250 gtctcacagg ggataagaag tttcaggagg cagtggagaa ggtgacacag 1300 cacatccacg gcctgtctgg gaagaaggat gggctggtgc ccatgttcat 1350 caatacccac agtggcctct tcacccacct gggcgtattc acgctgggcg 1400 ccagggccga cagctactat gagtacctgc tgaagcagtg gatccagggc 1450 gggaagcagg agacacagct gctggaagac tacgtggaag ccatcgaggg 1500 tgtcagaacg cacctgctgc ggcactccga gcccagtaag ctcacctttg 1550 tgggggaget tgcccacggc cgcttcagtg ccaagatgga ccacctggtg 1600 tgcttcctgc cagggacgct ggctctgggc gtctaccacg gcctgcccgc 1650 cagccacatg gagctggccc aggagctcat ggagacttgt taccagatga 1700 accggcagat ggagacgggg ctgagtcccg agatcgtgca cttcaacctt 1750 tacccccagc cgggccgtcg ggacgtggag gtcaagccag cagacaggca 1800 caacctgctg cggccagaga ccgtggagag cctgttctac ctgtaccgcg 1850 tcacagggga ccgcaaatac caggactggg gctgggagat tctgcagagc 1900 ttcagccgat tcacacgggt cccctcgggt ggctattctt ccatcaacaa 1950 tgtccaggat cctcagaagc ccgagcctag ggacaagatg gagagcttct 2000 tcctggggga gacgctcaag tatctgttct tgctcttctc cgatgaccca 2050 aacctgctca gcctggacgc ctacgtgttc aacaccgaag cccaccctct 2100

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<221> TRANSMEM

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Val Ala Thr Thr Val Val Met Tyr Pro Pro Pro Pro Pro Pro Pro 35 40 45

His Arg Asp Phe Ile Ser Val Thr Leu Ser Phe Gly Glu Ser Tyr 50 55 60

Asp Asn Ser Lys Ser Trp Arg Arg Arg Ser Cys Trp Arg Lys Trp 65 70 75

Lys Gln Leu Ser Arg Leu Gln Arg Asn Met Ile Leu Phe Leu Leu  $80 \hspace{1cm} 85 \hspace{1cm} 90 \hspace{1cm}$ 

Ala Phe Leu Leu Phe Cys Gly Leu Leu Phe Tyr Ile Asn Leu Ala 95 100 105

<sup>&</sup>lt;211> 699

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;222> 21-40 and 84-105

<sup>&</sup>lt;223> Transmembrane Domain (type II)

Asp	His	Trp	Lys	Ala 110	Leu	Ala	Phe	Arg	Leu 115	Glu	Glu	Glu	Gln	Lys 120
Met	Arg	Pro	Glu	Ile 125	Ala	Gly	Leu	Lys	Pro 130	Ala	Asn	Pro	Pro	Val 135
Leu	Pro	Ala	Pro	Gln 140	Lys	Ala	Asp	Thr	Asp 145	Pro	Glu	Asn	Leu	Pro 150
Glu	Ile	Ser	Ser	Gln 155	Lys	Thr	Gln	Arg	His 160	Ile	Gln	Arg	Gly	Pro 165
Pro	His	Leu	Gln	Ile 170	Arg	Pro	Pro	Ser	Gln 175	Asp	Leu	Lys	Asp	Gly 180
Thr	Gln	Glu	Glu	Ala 185	Thr	Lys	Arg	Gln	Glu 190	Ala	Pro	Val	Asp	Pro 195
Arg	Pro	Glu	Gly	Asp 200	Pro	Gln	Arg	Thr	Val 205	Ile	Ser	Trp	Arg	Gly 210
Ala	Val	Ile	Glu	Pro 215	Glu	Gln	Gly	Thr	Glu 220	Leu	Pro	Ser	Arg	Arg 225
Ala	Glu	Val	Pro	Thr 230	Lys	Pro	Pro	Leu	Pro 235	Pro	Ala	Arg	Thr	Gln 240
Gly	Thr	Pro	Val	His 245	Leu	Asn	Tyr	Arg	Gln 250	Lys	Gly	Val	Ile	Asp 255
Val	Phe	Leu	His	Ala 260	Trp	Lys	Gly	Tyr	Arg 265	Lys	Phe	Ala	Trp	Gly 270
His	Asp	Glu	Leu	Lys 275	Pro	Val	Ser	Arg	Ser 280	Phe	Ser	Glu	Trp	Phe 285
Gly	Leu	Gly	Leu	Thr 290	Leu	Ile	Asp	Ala	Leu 295	Asp	Thr	Met	Trp	Ile 300
Leu	Gly	Leu	Arg	Lys 305	Glu	Phe	Glu	Glu	Ala 310	Arg	Lys	Trp	Val	Ser 315
Lys	Lys	Leu	His	Phe 320	Glu	Lys	Asp	Val	Asp 325	Val	Asn	Leu	Phe	Glu 330
Ser	Thr	Ile	Arg	Ile 335	Leu	Gly	Gly	Leu	Leu 340	Ser	Ala	Tyr	His	Leu 345
Ser	Gly	Asp	Ser	Leu 350	Phe	Leu	Arg	Lys	Ala 355	Glu	Asp	Phe	Gly	Asn 360
Arg	Leu	Met	Pro	Ala 365	Phe	Arg	Thr	Pro	Ser 370	Lys	Ile	Pro	Tyr	Ser 375
Asp	Val	Asn	Ile	Gly 380	Thr	Gly	Val	Ala	His 385	Pro	Pro	Arg	Trp	Thr 390
Ser	Asp	Ser	Thr	Val	Ala	Glu	Val	Thr	Ser	Ile	Gln	Leu	Glu	Phe

upp.

				395					400					405
Arg	Glu	Leu	Ser	Arg 410	Leu	Thr	Gly	Asp	Lys 415	Lys	Phe	Gln	Glu	Ala 420
Val	Glu	Lys	Val	Thr 425	Gln	His	Ile	His	Gly 430	Leu	Ser	Gly	Lys	Lys 435
Asp	Gly	Leu	Val	Pro 440	Met	Phe	Ile	Asn	Thr 445	His	Ser	Gly	Leu	Phe 450
Thr	His	Leu	Gly	Val 455	Phe	Thr	Leu	Gly	Ala 460	Arg	Ala	Asp	Ser	Tyr 465
Tyr	Glu	Tyr	Leu	Leu 470	Lys	Gln	Trp	Ile	Gln 475	Gly	Gly	Lys	Gln	Glu 480
Thr	Gln	Leu	Leu	Glu 485	Asp	Tyr	Val	Glu	Ala 490	Ile	Glu	Gly	Val	Arg 495
Thr	His	Leu	Leu	Arg 500	His	Ser	Glu	Pro	Ser 505	Lys	Leu	Thr	Phe	Val 510
Gly	Glu	Leu	Ala	His 515	Gly	Arg	Phe	Ser	Ala 520	Lys	Met	Asp	His	Leu 525
Val	Суз	Phe	Leu	Pro 530	Gly	Thr	Leu	Ala	Leu 535	Gly	Val	Tyr	His	Gly 540
Leu	Pro	Ala	Ser	His 545	Met	Glu	Leu	Ala	Gln 550	Glu	Leu	Met	Glu	Thr 555
Cys	Tyr	Gln	Met	Asn 560	Arg	Gln	Met	Glu	Thr 565	Gly	Leu	Ser	Pro	Glu 570
Ile	Val	His	Phe	Asn 575	Leu	Tyr	Pro	Gln	Pro 580	Gly	Arg	Arg	Asp	Val 585
Glu	Val	Lys	Pro	Ala 590	Asp	Arg	His	Asn	Leu 595	Leu	Arg	Pro	Glu	Thr 600
Val	Glu	Ser	Leu	Phe 605	Tyr	Leu	Tyr	Arg	Val 610	Thr	Gly	Asp	Arg	Lys 615
Tyr	Gln	Asp	Trp	Gly 620	Trp	Glu	Ile	Leu	Gln 625	Ser	Phe	Ser	Arg	Phe 630
Thr	Arg	Val	Pro	Ser 635	Gly	Gly	Tyr	Ser	Ser 640	Ile	Asn	Asn	Val	Gln 645
Asp	Pro	Gln	Lys	Pro 650	Glu	Pro	Arg	Asp	Lys 655	Met	Glu	Ser	Phe	Phe 660
Leu	Gly	Glu	Thr	Leu 665	Lys	Tyr	Leu	Phe	Leu 670	Leu	Phe	Ser	Asp	Asp 675
Pro	Asn	Leu	Leu	Ser 680	Leu	Asp	Ala	Tyr	Val 685	Phe	Asn	Thr	Glu	Ala 690

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<222> 1-24
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<222> 1-44
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<211> 1524
<212> DNA
<213> Homo sapiens
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gcgcagctgc cctgggagga cggcaggtcc gggttgctct ccggcggcct 150
ccctcggaag tgttccgtct tccacctgtt cgtggcctgc ctctcgctgg 200
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gettettete cetaetetgg etgeagetea getgetetgg ggaegtggee 250

cgggcagtca ggggacaagg gcaggagacc tcgggccctc cccgtgcctg 300 cccccagag ccgcccctg agcactggga agaagacgca tcctggggcc 350 eccacegeet ggeagtgetg gtgeeettee gegaaegett egaggagete 400 ctggtcttcg tgccccacat gcgccgcttc ctgagcagga agaagatccg 450 gcaccacatc tacgtgctca accaggtgga ccacttcagg ttcaaccggg 500 cagegeteat caaegtggge tteetggaga geageaacag caeggaetae 550 attgccatgc acgacgttga cctgctccct ctcaacgagg agctggacta 600 tggctttcct gaggctgggc ccttccacgt ggcctccccg gagctccacc 650 ctctctacca ctacaagacc tatgtcggcg gcatcctgct gctctccaag 700 cagcactacc ggctgtgcaa tgggatgtcc aaccgcttct ggggctgggg 750 ccgcgaggac gacgagttct accggcgcat taagggagct gggctccagc 800 ttttccgccc ctcgggaatc acaactgggt acaagacatt tcgccacctg 850 catgacccag cctggcggaa gagggaccag aagcgcatcg cagctcaaaa 900 acaggagcag ttcaaggtgg acagggaggg aggcctgaac actgtgaagt 950 accatgtggc ttcccgcact gccctgtctg tgggcggggc cccctgcact 1000 gtcctcaaca tcatgttgga ctgtgacaag accgccacac cctggtgcac 1050 attcagctga gctggatgga cagtgaggaa gcctgtacct acaggccata 1100 ttgctcaggc tcaggacaag gcctcaggtc gtgggcccag ctctgacagg 1150 atgtggagtg gccaggacca agacagcaag ctacgcaatt gcagccaccc 1200 qqccqccaaq qcaqqcttqq qctqqqccaq qacacqtqqq qtqcctqgqa 1250 cgctgcttgc catgcacagt gatcagagag aggctggggt gtgtcctgtc 1300 egggaceece cetgeettee tgeteaceet actetgacet cetteacgtg 1350 cccaggcctg tgggtagtgg ggagggctga acaggacaac ctctcatcac 1400 cctactctga cctccttcac gtgcccaggc ctgtgggtag tggggagggc 1450 aaaaaaaaaa aaaaaaaaaa aaaa 1524

DEFENDE FULL

<sup>&</sup>lt;210> 17

<sup>&</sup>lt;211> 327

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

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<221> misc_feature
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<223> N-myristoylation site.
<220>
<221> misc feature
<222> 27-31
<223> cAMP- and cGMP-dependent protein kinase phosphorylation site.
<220>
<221> TRANSMEM
<222> 29-49
<223> Transmembrane domain (type II).
<220>
<221> misc feature
<222> 154-158
<223> N-glycosylation site.
<220>
<221> misc_feature
<222> 226-233
<223> Tyrosine kinase phosphorylation site.
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                  35
Leu Leu Trp Leu Gln Leu Ser Cys Ser Gly Asp Val Ala Arg Ala
Val Arg Gly Gln Gly Gln Glu Thr Ser Gly Pro Pro Arg Ala Cys
Pro Pro Glu Pro Pro Glu His Trp Glu Glu Asp Ala Ser Trp
Gly Pro His Arg Leu Ala Val Leu Val Pro Phe Arg Glu Arg Phe
                  95
                                                          105
Glu Glu Leu Leu Val Phe Val Pro His Met Arg Arg Phe Leu Ser
                 110
                                     115
Arg Lys Lys Ile Arg His His Ile Tyr Val Leu Asn Gln Val Asp
                                                          135
                 125
His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn Val Gly Phe Leu
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Leu	Leu	Pro	Leu	Asn 170	Glu	Glu	Leu	Asp	Tyr 175	Gly	Phe	Pro	Glu	Ala 180
Gly	Pro	Phe	His	Val 185	Ala	Ser	Pro	Glu	Leu 190	His	Pro	Leu	Tyr	His 195
Tyr	Lys	Thr	Tyr	Val 200	Gly	Gly	Ile	Leu	Leu 205	Leu	Ser	Lys	Gln	His 210
Tyr	Arg	Leu	Cys	Asn 215	Gly	Met	Ser	Asn	Arg 220	Phe	Trp	Gly	Trp	Gly 225
Arg	Glu	Asp	Asp	Glu 230	Phe	Tyr	Arg	Arg	Ile 235	Lys	Gly	Ala	Gly	Leu 240
Gln	Leu	Phe	Arg	Pro 245	Ser	Gly	Ile	Thr	Thr 250	Gly	Tyr	Lys	Thr	Phe 255
Arg	His	Leu	His	Asp 260	Pro	Ala	Trp	Arg	Lys 265	Arg	Asp	Gln	Lys	Arg 270
Ile	Ala	Ala	Gln	Lys 275	Gln	Glu	Gln	Phe	Lys 280	Val	Asp	Arg	Glu	Gly 285
Gly	Leu	Asn	Thr	Val 290	Lys	Tyr	His	Val	Ala 295	Ser	Arg	Thr	Ala	Leu 300
Ser	Val	Gly	Gly	Ala 305	Pro	Cys	Thr	Val	Leu 310	Asn	Ile	Met	Leu	Asp 315
Cys	Asp	Lys	Thr	Ala 320	Thr	Pro	Trp	Cys	Thr 325	Phe	Ser			
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<211> 494
<212> DNA
<213> Homo sapiens
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<221> misc_feature
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<223> Growth factor and cytokines receptors family.

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Phe Leu Cys Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln 50 55 60

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<213> Homo sapiens

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1 II N

1717

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<213> Homo sapiens
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<223> Transmembrane domain (type II).
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Asp Gly Arg Pro Arg Gly Ala Gly Arg Ala Ala Gly Ala Ala Glu 50 55 60

Gly Lys Val Val Cys Ser Ser Leu Glu Leu Ala Gln Val Leu Pro
65 70 75

Pro Asp Thr Leu Pro Asn Arg Thr Val Thr Leu Ile Leu Ser Asn 80 85 90

Asn Lys Ile Ser Glu Leu Lys Asn Gly Ser Phe Ser Gly Leu Ser Leu Leu Glu Arg Leu Asp Leu Arg Asn Asn Leu Ile Ser Ser Ile Asp Pro Gly Ala Phe Trp Gly Leu Ser Ser Leu Lys Arg Leu Asp Leu Thr Asn Asn Arg Ile Gly Cys Leu Asn Ala Asp Ile Phe Arg 145 Gly Leu Thr Asn Leu Val Arg Leu Asn Leu Ser Gly Asn Leu Phe 160 155 Ser Ser Leu Ser Gln Gly Thr Phe Asp Tyr Leu Ala Ser Leu Arg 175 Ser Leu Glu Phe Gln Thr Glu Tyr Leu Leu Cys Asp Cys Asn Ile 195 Leu Trp Met His Arg Trp Val Lys Glu Lys Asn Ile Thr Val Arg Asp Thr Arg Cys Val Tyr Pro Lys Ser Leu Gln Ala Gln Pro Val 215 Thr Gly Val Lys Gln Glu Leu Leu Thr Cys Asp Pro Pro Leu Glu 230 Leu Pro Ser Phe Tyr Met Thr Pro Ser His Arg Gln Val Val Phe 245 Glu Gly Asp Ser Leu Pro Phe Gln Cys Met Ala Ser Tyr Ile Asp Gln Asp Met Gln Val Leu Trp Tyr Gln Asp Gly Arg Ile Val Glu 275 Thr Asp Glu Ser Gln Gly Ile Phe Val Glu Lys Asn Met Ile His 295 Asn Cys Ser Leu Ile Ala Ser Ala Leu Thr Ile Ser Asn Ile Gln 305 310 Ala Gly Ser Thr Gly Asn Trp Gly Cys His Val Gln Thr Lys Arg Gly Asn Asn Thr Arg Thr Val Asp Ile Val Val Leu Glu Ser Ser 335 Ala Gln Tyr Cys Pro Pro Glu Arg Val Val Asn Asn Lys Gly Asp 355 350 Phe Arg Trp Pro Arg Thr Leu Ala Gly Ile Thr Ala Tyr Leu Gln Cys Thr Arg Asn Thr His Gly Ser Gly Ile Tyr Pro Gly Asn Pro

				380					385					390
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Trp	Ala	Asp	Asp	Asp 410	Tyr	Ser	Arg	Cys	Gln 415	Tyr	Ala	Asn	Asp	Val 420
Thr	Arg	Val	Leu	Tyr 425	Met	Phe	Asn	Gln	Met 430	Pro	Leu	Asn	Leu	Thr 435
Asn	Ala	Val	Ala	Thr 440	Ala	Arg	Gln	Leu	Leu 445	Ala	Tyr	Thr	Val	Glu 450
Ala	Ala	Asn	Phe	Ser 455	Asp	Lys	Met	Asp	Val 460	Ile	Phe	Val	Ala	Glu 465
Met	Ile	Glu	Lys	Phe 470	Gly	Arg	Phe	Thr	Lys 475	Glu	Glu	Lys	Ser	Lys 480
Glu	Leu	Gly	Asp	Val 485	Met	Val	Asp	Ile	Ala 490	Ser	Asn	Ile	Met	Leu 495
Ala	Asp	Glu	Arg	Val 500	Leu	Trp	Leu	Ala	Gln 505	Arg	Glu	Ala	Lys	Ala 510
Cys	Ser	Arg	Ile	Val 515	Gln	Cys	Leu	Gln	Arg 520	Ile	Ala	Thr	Tyr	Arg 525
Leu	Ala	Gly	Gly	Ala 530	His	Val	Tyr	Ser	Thr 535	Tyr	Ser	Pro	Asn	Ile 540
Ala	Leu	Glu	Ala	Tyr 545	Val	Ile	Lys	Ser	Thr 550	Gly	Phe	Thr	Gly	Met 555
Thr	Cys	Thr	Val	Phe 560	Gln	Lys	Val	Ala	Ala 565	Ser	Asp	Arg	Thr	Gly 570
Leu	Ser	Asp	Tyr	Gly 575	Arg	Arg	Asp	Pro	Glu 580	Gly	Asn	Leu	Asp	Lys 585
Gln	Leu	Ser	Phe	Lys 590	Cys	Asn	Val	Ser	Asn 595	Thr	Phe	Ser	Ser	Leu 600
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Ser

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<222> 1-24
<223> Synthetic construct.
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<211> 50
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<222> 1-50
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<400> 27
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<212> DNA
<213> Homo sapiens
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 aaaaagaaaa cattcgtctt ttgggagaac agattatttt gactgagcaa 200
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 tgtccagtgc ttagggttgt tactgagaag cactgccgag cttgtgagaa 550
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AND TEACHER PART

44 14 210

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<213> Homo sapiens

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<223> Signal peptide.

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Thr Ala Ala Thr Val Ala Gly Val His Val Lys Gln Gln Trp Asp 20 25 30

Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln 35 40 45

Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile 50 55 60

Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala 65 70 75

Lys Gly Ser Gln Lys Ser 80

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<212> DNA

<213> Homo sapiens

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r p

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<211> 322

<212> PRT

<213> Homo sapiens

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Ala Leu Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val
35 40 45

Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp
50 55 60

Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys
65 70 75

Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu 80 85 90

Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe 95 100 105

Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser Ile Ile Tyr 110 115 120

Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser Arg Asp 125 130 135

His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val Ala 140 145 150

Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala Arg Pro Gly Glu Ile 155 160 165

Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu Lys Val Leu Glu 170 175 180

Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser Asp Pro Asn 185 190 195

Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala Val Tyr  $200 \hspace{1cm} 205 \hspace{1cm} 210 \hspace{1cm}$ 

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Ala Ile Cys Phe Ile Leu Ala Ala Ile Ala Ile Leu Leu Asn Leu
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Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
                                     235
Ser Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr Ala Leu
                245
Val Leu Trp Pro Leu Tyr Gln Phe Asp Glu Lys Tyr Gly Gly Gln
                260
Pro Arg Arg Ser Arg Asp Val Ser Cys Ser Arg Ser His Ala Tyr
                                     280
                275
Tyr Val Cys Ala Trp Asp Arg Arg Leu Ala Val Ala Ile Leu Thr
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Ala Ile Asn Leu Leu Ala Tyr Val Ala Asp Leu Val His Ser Ala
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320

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10 1 1 2 HILL 100 P

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<212> PRT

<213> Homo sapiens

<400> 33

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Ser Leu Ala Gln Val Asn Leu Ser Pro Phe Ser His Pro Lys Val

His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu
50 55 60

Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu
65 70 75

Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro  $80 \\ 85 \\ 90$ 

Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys  $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$ 

Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala 110 115 120

Phe Ser Ser Tyr Ser Asp Leu Ser Glu Gly Glu Gln Glu Ala Arg 125 130 135

Phe Ala Ala Gly Val Ala Glu Gln Phe Ala Ile Ala Glu Ala Lys 140 145 150

Leu Arg Ala Trp Ser Ser Val Asp Gly Glu Asp Ser Thr Asp Asp 155 160 165

Ser Tyr Asp Glu Asp Phe Ala Gly Gly Met Asp Thr Asp Met Ala 170 175 180

Gly Gln Leu Pro Leu Gly Pro His Leu Gln Asp Leu Phe Thr Gly 185 190 195

His Arg Phe Ser Arg Pro Val Arg Gln Gly Ser Val Glu Pro Glu 200 205 210

Ser Asp Cys Ser Gln Thr Val Ser Pro Asp Thr Leu Cys Ser Ser 215 220 225

Leu Cys Ser Leu Glu Asp Gly Leu Leu Gly Ser Pro Ala Arg Leu 230 235 240

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                  275
                                      280
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 Cys Pro Pro Leu Thr Gly Ser Trp Glu Arg Gln Arg Gln Ala Ser
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<213> Homo sapiens
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tgatatttca gttcctgatt gtaaatacct cctaagcctg aagcttctgt 200
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caatctattc ttgccacatc aagggattgt tattccttta aaaaaaaacc 300
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11 1 1

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900

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<212> PRT

<213> Homo sapiens

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Thr Thr Gln Asn Ile Ala Glu Val Phe Lys Thr Met Glu Asn Lys 35 40 45

Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu
50 55 60

Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu 65 70 75

Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn 80 85 90

Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr  $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$ 

Ile Ser Thr Ser Pro Pro Leu Ile His Ser Phe Val Ser Lys Val 110 115 120

Pro Trp Asn Ala Pro Ile Ala Asp Glu Asp Leu Leu Pro Ile Ser 125 130 135

Ala His Pro Asn Ala Thr Pro Ala Leu Ser Ser Glu Asn Phe Thr 140 145 150

Trp Ser Leu Val Asn Asp Thr Val Lys Thr Pro Asp Asn Ser Ser 155 160 165

Ile Thr Val Ser Ile Leu Ser Ser Glu Pro Thr Ser Pro Ser Val 170 175 180

Thr Pro Leu Ile Val Glu Pro Ser Gly Trp Leu Thr Thr Asn Ser 185 190 195

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Gln Pro Thr Leu Lys Phe Thr Asn Asn Ser Lys Leu Phe Pro Asn
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Gly Ala Ile Leu Gly Ala Ile Leu Gly Val Ser Leu Leu Thr Leu
                                     250
                245
Val Gly Tyr Leu Leu Cys Gly Lys Arg Lys Thr Asp Ser Phe Ser
                                     265
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His Arg Arg Leu Tyr Asp Asp Arg Asn Glu Pro Val Leu Arg Leu
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                275
Asp Asn Ala Pro Glu Pro Tyr Asp Val Ser Phe Gly Asn Ser Ser
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Tyr Tyr Asn Pro Thr Leu Asn Asp Ser Ala Met Pro Glu Ser Glu
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mrg mr ber var

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ctgageegea eggteagaae teagatactg aceggeaagg ageteegagt 200
tgeeaceeag gaaaaagagg geteetetgg gagatgtatg ettactetet 250
taggeette atteatettg geaggaetta ttgttggtgg ageetgeatt 300
tacaagtact teatgeeeaa gageaceatt tacegtggag agatgtett 350
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<211> 263

<212> PRT

<213> Homo sapiens

<400> 43

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Thr Gln Ile Leu Thr Gly Lys Glu Leu Arg Val Ala Thr Gln Glu 35 40 45

Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu

				50					55					60
Ser	Phe	Ile	Leu	Ala 65	Gly	Leu	Ile	Val	Gly 70	Gly	Ala	Cys	Ile	Tyr 75
Lys	Tyr	Phe	Met	Pro 80	Lys	Ser	Thr	Ile	Tyr 85	Arg	Gly	Glu	Met	Cys 90
Phe	Phe	Asp	Ser	Glu 95	Asp	Pro	Ala	Asn	Ser 100	Leu	Arg	Gly	Gly	Glu 105
Pro	Asn	Phe	Leu	Pro 110	Val	Thr	Glu	Glu	Ala 115	Asp <sub>.</sub>	Ile	Arg	Glu	Asp 120
Asp	Asn	Ile	Ala	Ile 125	Ile	Asp	Val	Pro	Val 130	Pro	Ser	Phe	Ser	Asp 135
Ser	Asp	Pro	Ala	Ala 140	Ile	Ile	His	Asp	Phe 145	Glu	Lys	Gly	Met	Thr 150
Ala	Tyr	Leu	Asp	Leu 155	Leu	Leu	Gly	Asn	Cys 160	Tyr	Leu	Met	Pro	Leu 165
Asn	Thr	Ser	Ile	Val 170	Met	Pro	Pro	Lys	Asn 175	Leu	Val	Glu	Leu	Phe 180
Gly	Lys	Leu	Ala	Ser 185	Gly	Arg	Tyr	Leu	Pro 190	Gln	Thr	Tyr	Val	Val 195
Arg	Glu	Asp	Leu	Val 200	Ala	Val	Glu	Glu	Ile 205	Arg	Asp	Val	Ser	Asn 210
Leu	Gly	Ile	Phe	Ile 215	Tyr	Gln	Leu	Cys	Asn 220	Asn	Arg	Lys	Ser	Phe 225
Arg	Leu	Arg	Arg	Arg 230	Asp	Leu	Leu	Leu	Gly 235	Phe	Asn	Lys	Arg	Ala 240
Ile	Asp	Lys	Cys	Trp 245	Lys	Ile	Arg	His	Phe 250	Pro	Asn	Glu	Phe	Ile 255
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<210> 45

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<210> 50 <211> 283 <212> PRT <213> Homo sapiens

(213) Homo Bapien

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Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly Gly Gly Asp
Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu Lys
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Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val Pro
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                215
Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu
                                    235
                230
Glu Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly
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agacactctg gagagagagg gggctgggca gagatgaagt tccaggggcc 200
cctggcctgc ctcctgctgg ccctctgcct gggcagtggg gaggctggcc 250
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ggacatggcc tgggagacgc cctgagcgaa ggggtgggaa aggccattgg 350
caaagaggcc ggaggggcag ctggctctaa agtcagtgag gcccttggcc 400
aagggaccag atgctttggg caacagggt tccaggcagt tccaggctt 450
ggcgcagcag atgctttggg caacagggtc ggggaagcag cccatgctct 500
gggaaacact gggcacgaa ttggcagaa ggcagagaga gtcattcgac 550
acggagcaga tgctgtccgc ggctcctggc agggggtgcc tggccacagt 600
ggtgcttggg aaacttctgg aggccatggc atctttggcg actccgtgg 700

1 0 epin 11

tccacggata ccccggaaac tcagcaggca gctttggaat gaatcctcag 750 ggagctccct ggggtcaagg aggcaatgga gggccaccaa actttgggac 800 caacactcag ggagctgtgg cccagcctgg ctatggttca gtgagagcca 850 gcaaccagaa tgaagggtgc acgaatcccc caccatctgg ctcaggtgga 900 gqctccaqca actctqgggg aggcagcggc tcacagtcgg gcagcagtgg 950 cagtggcagc aatggtgaca acaacaatgg cagcagcagt ggtggcagca 1000 qcaqtqqcaq caqcaqtqqc agcaqcaqtq gcqgcaqcag tggcqgcagc 1050 agtqqtqqca qcaqtqqcaa caqtqqtqqc aqcaqaqqtq acaqcqqcag 1100 tgagtcctcc tggggatcca gcaccggctc ctcctccggc aaccacggtg 1150 ggagcggcgg aggaaatgga cataaacccg ggtgtgaaaa gccagggaat 1200 gaagcccgcg ggagcgggga atctgggatt cagggcttca gaggacaggg 1250 agtttccagc aacatgaggg aaataagcaa agagggcaat cgcctccttg 1300 qaqqctctqq aqacaattat cqqqqqcaaq qqtcqaqctq qqqcagtgga 1350 qqaqqtqacq ctqttqqtqq aqtcaatact qtqaactctq aqacqtctcc 1400 tgggatgttt aactttgaca ctttctggaa gaattttaaa tccaagctgg 1450 gtttcatcaa ctgggatgcc ataaacaagg accagagaag ctctcgcatc 1500 ccqtqacctc caqacaaqqa gccaccaqat tqqatqqqaq cccccacact 1550 ccctccttaa aacaccaccc tctcatcact aatctcagcc cttgcccttg 1600 aaaaaaaaaa aaaaaaaaaa aaaaaaaaa aaaa 1734

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35 40 45

Ala Leu Ser Glu Gly Val Gly Lys Ala Ile Gly Lys Glu Ala Gly

HILLIAN ME

<sup>&</sup>lt;210> 52

<sup>&</sup>lt;211> 440

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 52

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1 5 10 15

Leu Gly Ser Gly Glu Ala Gly Pro Leu Gln Ser Gly Glu Glu Ser  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

				50					55					60
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Arg	Glu	Ala	Val	Gly 80	Thr	Gly	Val	Arg	Gln 85	Val	Pro	Gly	Phe	Gly 90
Ala	Ala	Asp	Ala	Leu 95	Gly	Asn	Arg	Val	Gly 100	Glu	Ala	Ala	His	Ala 105
Leu	Gly	Asn	Thr	Gly 110	His	Glu	Ile	Gly	Arg 115	Gln	Ala	Glu	Asp	Val 120
Ile	Arg	His	Gly	Ala 125	Asp	Ala	Val	Arg	Gly 130	Ser	Trp	Gln	Gly	Val 135
Pro	Gly	His	Ser	Gly 140	Ala	Trp	Glu	Thr	Ser 145	Gly	Gly	His	Gly	Ile 150
Phe	Gly	Ser	Gln	Gly 155	Gly	Leu	Gly	Gly	Gln 160	Gly	Gln	Gly	Asn	Pro 165
Gly	Gly	Leu	Gly	Thr 170	Pro	Trp	Val	His	Gly 175	Tyr	Pro	Gly	Asn	Ser 180
Ala	Gly	Ser	Phe	Gly 185	Met	Asn	Pro	Gln	Gly 190	Ala	Pro	Trp	Gly	Gln 195
Gly	Gly	Asn	Gly	Gly 200	Pro	Pro	Asn	Phe	Gly 205	Thr	Asn	Thr	Gln	Gly 210
Ala	Val	Ala	Gln	Pro 215	Gly	Tyr	Gly	Ser	Val 220	Arg	Ala	Ser	Asn	Gln 225
Asn	Glu	Gly	Cys	Thr 230	Asn	Pro	Pro	Pro	Ser 235	Gly	Ser	Gly	Gly	Gly 240
Ser	Ser	Asn	Ser	Gly 245	Gly	Gly	Ser	Gly	Ser 250	Gln	Ser	Gly	Ser	Ser 255
Gly	Ser	Gly	Ser	Asn 260	Gly	Asp	Asn	Asn	Asn 265	Gly	Ser	Ser	Ser	Gly 270
Gly	Ser	Ser	Ser	Gly 275	Ser	Ser	Ser	Gly	Ser 280	Ser	Ser	Gly	Gly	Ser 285
Ser	Gly	Gly	Ser	Ser 290	Gly	Gly	Ser	Ser	Gly 295	Asn	Ser	Gly	Gly	Ser 300
Arg	Gly	Asp	Ser	Gly 305	Ser	Glu	Ser	Ser	Trp 310	Gly	Ser	Ser	Thr	Gly 315
Ser	Ser	Ser	Gly	Asn 320	His	Gly	Gly	Ser	Gly 325	Gly	Gly	Asn	Gly	His 330
Lys	Pro	Gly	Cys	Glu 335	Lys	Pro	Gly	Asn	Glu 340	Ala	Arg	Gly	Ser	Gly 345

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Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser 375

Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly 390

Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser 405

Pro Gly Met Phe Asn And Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser 420

Lys Leu Gly Phe Ile Asn Trp Asp Ala Ile Asn Lys Asp Gln Arg 435

Ser Ser Arg Ile Pro 440
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<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;210> 54

<sup>&</sup>lt;211> 280

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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<sup>&</sup>lt;211> 299

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 56

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Pro Val Asn Leu Lys Lys Trp Ser Ile Thr Asp Gly Tyr Val Pro
Ile Leu Gly Asn Lys Thr Leu Pro Ser Arg Cys His Gln Cys Val
Ile Val Ser Ser Ser His Leu Leu Gly Thr Lys Leu Gly Pro
Glu Ile Glu Arg Ala Glu Cys Thr Ile Arg Met Asn Asp Ala Pro
Thr Thr Gly Tyr Ser Ala Asp Val Gly Asn Lys Thr Thr Tyr Arg
                110
                                    115
Val Val Ala His Ser Ser Val Phe Arg Val Leu Arg Arg Pro Gln
                125
                                    130
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Glu Phe Val Asn Arg Thr Pro Glu Thr Val Phe Ile Phe Trp Gly
Pro Pro Ser Lys Met Gln Lys Pro Gln Gly Ser Leu Val Arg Val
Ile Gln Arq Ala Gly Leu Val Phe Pro Asn Met Glu Ala Tyr Ala
Val Ser Pro Gly Arg Met Arg Gln Phe Asp Asp Leu Phe Arg Gly
                                    190
Glu Thr Gly Lys Asp Arg Glu Lys Ser His Ser Trp Leu Ser Thr
Gly Trp Phe Thr Met Val Ile Ala Val Glu Leu Cys Asp His Val
                215
His Val Tyr Gly Met Val Pro Pro Asn Tyr Cys Ser Gln Arg Pro
Arg Leu Gln Arg Met Pro Tyr His Tyr Tyr Glu Pro Lys Gly Pro
                245
                                    250
Asp Glu Cys Val Thr Tyr Ile Gln Asn Glu His Ser Arg Lys Gly
Asn His His Arg Phe Ile Thr Glu Lys Arg Val Phe Ser Ser Trp
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Ala Gln Leu Tyr Gly Ile Thr Phe Ser His Pro Ser Trp Thr
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<sup>&</sup>lt;210> 57

<sup>&</sup>lt;211> 4277

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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Val Thr Gly Tyr Asn Lys Thr Arg Phe Leu Leu Ser Asn Leu Leu Ile Asp Thr Thr Ser Glu Glu Asp Ser Gly Thr Tyr Arg Cys Met 295 Ala Asp Asn Gly Val Gly Gln Pro Gly Ala Ala Val Ile Leu Tyr 310 Asn Val Gln Val Phe Glu Pro Pro Glu Val Thr Met Glu Leu Ser Gln Leu Val Ile Pro Trp Gly Gln Ser Ala Lys Leu Thr Cys Glu Val Arg Gly Asn Pro Pro Pro Ser Val Leu Trp Leu Arg Asn Ala 355 350 Val Pro Leu Ile Ser Ser Gln Arg Leu Arg Leu Ser Arg Arg Ala Leu Arg Val Leu Ser Met Gly Pro Glu Asp Glu Gly Val Tyr Gln 385 380 Cys Met Ala Glu Asn Glu Val Gly Ser Ala His Ala Val Val Gln 400 395 Leu Arg Thr Ser Arg Pro Ser Ile Thr Pro Arg Leu Trp Gln Asp 415 410 Ala Glu Leu Ala Thr Gly Thr Pro Pro Val Ser Pro Ser Lys Leu 425 430 Gly Asn Pro Glu Gln Met Leu Arg Gly Gln Pro Ala Leu Pro Arg 445 440 Pro Pro Thr Ser Val Gly Pro Ala Ser Pro Lys Cys Pro Gly Glu 455 460 Lys Gly Gln Gly Ala Pro Ala Glu Ala Pro Ile Ile Leu Ser Ser 475 Pro Arg Thr Ser Lys Thr Asp Ser Tyr Glu Leu Val Trp Arg Pro 490 485 Arg His Glu Gly Ser Gly Arg Ala Pro Ile Leu Tyr Tyr Val Val 500 505 Lys His Arq Lys Gln Val Thr Asn Ser Ser Asp Asp Trp Thr Ile 520 Ser Gly Ile Pro Ala Asn Gln His Arg Leu Thr Leu Thr Arg Leu 535 Asp Pro Gly Ser Leu Tyr Glu Val Glu Met Ala Ala Tyr Asn Cys 550 Ala Gly Glu Gly Gln Thr Ala Met Val Thr Phe Arg Thr Gly Arg

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Arg	Asp	Asp	Pro	Gly 590	Ala	Ser	Pro	Gln	Ser 595	Ser	Ser	Gln	Pro	Asp 600
His	Gly	Arg	Leu	Ser 605	Pro	Pro	Glu	Ala	Pro 610	Asp	Arg	Pro	Thr	Ile 615
Ser	Thr	Ala	Ser	Glu 620	Thr	Ser	Val	Tyr	Val 625	Thr	Trp	Ile	Pro	Arg 630
Gly	Asn	Gly	Gly	Phe 635	Pro	Ile	Gln	Ser	Phe 640	Arg	Val	Glu	Tyr	Lys 645
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Ser	Gly	Arg	Val	Tyr 710	Glu	Arg	Pro	Val	Ala 715	Gly	Pro	Tyr	Ile	Thr 720
Phe	Thr	Asp	Ala	Val 725	Asn	Glu	Thr	Thr	Ile 730	Met	Leu	Lys	Trp	Met 735
Tyr	Ile	Pro	Ala	Ser 740	Asn	Asn	Asn	Thr	Pro 745	Ile	His	Gly	Phe	Tyr 750
Ile	Tyr	Tyr	Arg	Pro 755	Thr	Asp	Ser	Asp	Asn 760	Asp	Ser	Asp	Tyr	Lys 765
Lys	Asp	Met	Val	Glu 770	Gly	Asp	Lys	Tyr	Trp 775	His	Ser	Ile	Ser	His 780
Leu	Gln	Pro	Glu	Thr 785	Ser	Tyr	Asp	Ile	Lys 790	Met	Gln	Суз	Phe	Asn 795
Glu	Gly	Gly	Glu	Ser 800	Glu	Phe	Ser	Asn	Val 805	Met	Ile	Cys	Glu	Thr 810
Lys	Ala	Arg	Lys	Ser 815	Ser	Gly	Gln	Pro	Gly 820	Arg	Leu	Pro	Pro	Pro 825
Thr	Leu	Ala	Pro	Pro 830	Gln	Pro	Pro	Leu	Pro 835	Glu	Thr	Ile	Glu	Arg 840
Pro	Val	Gly	Thr	Gly 845	Ala	Met	Val	Ala	Arg 850	Ser	Ser	Asp	Leu	Pro 855

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Val Thr Phe Ile Pro Phe Cys Leu Trp Arg Ala Trp Ser Lys Gln
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Lys His Thr Thr Asp Leu Gly Phe Pro Arg Ser Ala Leu Pro Pro
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Ser Cys Pro Tyr Thr Met Val Pro Leu Gly Gly Leu Pro Gly His
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Gln Ala Ser Gly Gln Pro Tyr Leu Ser Gly Ile Ser Gly Arg Ala
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Cys Ala Asn Gly Ile His Met Asn Arg Gly Cys Pro Ser Ala Ala
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Val Gly Tyr Pro Gly Met Lys Pro Gln Gln His Cys Pro Gly Glu
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Leu Gly Asn Gly Tyr Asp Pro Gln Ser His Gln Ile Thr Arg Gly
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Pro Lys Ser Ser Pro Asp Glu Gly Ser Phe Leu Tyr Thr Leu Pro
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                                   1000
Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys
               1010
                                   1015
Gln Arg Gln Glu Gln Pro Ala Ala Val Gly Gln Ser Gly Val Arg
                                   1030
Arg Ala Pro Asp Ser Pro Val Leu Glu Ala Val Trp Asp Pro Pro
               1040
                                   1045
Phe His Ser Gly Pro Pro Cys Cys Leu Gly Leu Val Pro Val Glu
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Glu Val Asp Ser Pro Asp Ser Cys Gln Val Ser Gly Gly Asp Trp
                                   1075
Cys Pro Gln His Pro Val Gly Ala Tyr Val Gly Gln Glu Pro Gly
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Pro Pro Leu Thr Ile
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<213> Artificial

1.00 (1.00)

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FEB 101

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<sup>&</sup>lt;210> 63

<sup>&</sup>lt;211> 487

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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re run o

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Val Ile Phe Se	His Ser A 290	ala Ala Arg	Ala Val Cys A 295	sp Asn Leu 300						
Leu Asn Val Pr	Asp Asp I 305		Leu Leu Lys A 310	sn Gly Gly 315						
Ile Val Met Va	Thr Leu S 320		Val Leu Gln C 325	ys Asn Leu 330						
Leu Ala Asn Va	L Ser Thr V 335	al Ala Asp	His Phe Asp H 340	is Ile Arg 345						
Ala Val Ile Gl	y Ser Glu P 350		Ile Gly Gly A 355	sn Tyr Asp 360						
Gly Thr Gly Ar	g Phe Pro G 365		Glu Asp Val S 370	er Thr Tyr 375						
Pro Val Leu Il	e Glu Glu L 380	Leu Leu Ser	Arg Xaa Trp S 385	er Glu Glu 390						
Glu Leu Gln Gl	y Val Leu A 395	Arg Gly Asn	Leu Leu Arg V 400	al Phe Arg 405						
Gln Val Glu Ly	s Val Arg G 410		Arg Ala Gln S 415	er Pro Val 420						
Glu Ala Glu Ph	e Pro Tyr G 425	Sly Gln Leu	Ser Thr Ser C 430	ys His Ser 435						
His Leu Val Pr	Gln Asn G 440	Gly His Gln	Ala Thr His L 445	eu Glu Val 450						
Thr Lys Gln Pr	Thr Asn A 455	Arg Val Pro	Trp Arg Ser S 460	er Asn Ala 465						
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<212> DNA
<213> Homo sapiens
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<210> 68

<211> 183

<212> PRT

<213> Homo sapiens

<400> 68

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Cys Ile Cys Pro Pro Tyr Arg Asn Ile Ser Gly His Ile Tyr Asn 35 40 45

Gln Asn Val Ser Gln Lys Asp Cys Asn Cys Leu His Val Val Glu
50 55 60

A complete and

0.00 LE C. 10 C. 1

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Cys Glu Cys Arg Tyr Glu Glu Arg Ser Thr Thr Thr Ile Lys Val
Ile Ile Val Ile Tyr Leu Ser Val Val Gly Ala Leu Leu Tyr
Met Ala Phe Leu Met Leu Val Asp Pro Leu Ile Arg Lys Pro Asp
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Ala Tyr Thr Glu Gln Leu His Asn Glu Glu Glu Asn Glu Asp Ala
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                                                        135
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Arg Ser Met Ala Ala Ala Ala Ser Leu Gly Gly Pro Arg Ala
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Asn Thr Val Leu Glu Arg Val Glu Gly Ala Gln Gln Arg Trp Lys
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gcatgtgctg ccccagtacc cgctgcaata atggcatctg tatcccagtt 600
actgaaagca tcttaacccc tcacatcccg gctctggatg gtactcggca 650

merkin din

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<210> 70

<211> 259

<212> PRT

<213> Homo sapiens

<400> 70

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Leu Leu Ala Ala Val Leu Met Val Glu Ser Ser Gln Ile Gly Ser 20 25 30

Ser Arg Ala Lys Leu Asn Ser Ile Lys Ser Ser Leu Gly Gly Glu 35 40 45

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Leu Ala Phe Gly Gly Ser Lys Lys Gly Lys Asn Leu Gly Gln Ala
Tyr Pro Cys Ser Ser Asp Lys Glu Cys Glu Val Gly Arg Tyr Cys
His Ser Pro His Gln Gly Ser Ser Ala Cys Met Val Cys Arg Arg
Lys Lys Lys Arg Cys His Arg Asp Gly Met Cys Cys Pro Ser Thr
Arg Cys Asn Asn Gly Ile Cys Ile Pro Val Thr Glu Ser Ile Leu
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Thr Pro His Ile Pro Ala Leu Asp Gly Thr Arg His Arg Asp Arg
                                     145
Asn His Gly His Tyr Ser Asn His Asp Leu Gly Trp Gln Asn Leu
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Gly Arg Pro His Thr Lys Met Ser His Ile Lys Gly His Glu Gly
                                     175
Asp Pro Cys Leu Arg Ser Ser Asp Cys Ile Glu Gly Phe Cys Cys
                                     190
Ala Arg His Phe Trp Thr Lys Ile Cys Lys Pro Val Leu His Gln
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Gly Glu Val Cys Thr Lys Gln Arg Lys Lys Gly Ser His Gly Leu
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Glu Ile Phe Gln Arg Cys Asp Cys Ala Lys Gly Leu Ser Cys Lys
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Val Trp Lys Asp Ala Thr Tyr Ser Ser Lys Ala Arg Leu His Val
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Cys Gln Lys Ile

10 **j**ej ji

<sup>&</sup>lt;210> 71 <211> 1809

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<211> 363

<212> PRT

<213> Homo sapiens

<400> 72

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Cys Ser Phe Ile Pro Leu Leu Lys Ser Ser Val Leu Gly Ser Gly 20 25 30

Phe Gly Glu Leu Ala Pro Pro Lys Met Ala Asn Ile Thr Ser Ser 35 40 45

Gln Ile Leu Asp Gln Leu Lys Ala Pro Ser Leu Gly Gln Phe Thr
50 55 60

Thr Thr Pro Ser Thr Gln Gln Asn Ser Thr Ser His Pro Thr Thr
65 70 75

Thr Thr Ser Trp Asp Leu Lys Pro Pro Thr Ser Gln Ser Ser Val

Leu Ser His Leu Asp Phe Lys Ser Gln Pro Glu Pro Ser Pro Val 95 100 105

Leu Ser Gln Leu Ser Gln Arg Gln Gln His Gln Ser Gln Ala Val 110 115 120

Thr Val Pro Pro Pro Gly Leu Glu Ser Phe Pro Ser Gln Ala Lys 125 130 135

Leu Arg Glu Ser Thr Pro Gly Asp Ser Pro Ser Thr Val Asn Lys 140 145

Leu Leu Gln Leu Pro Ser Thr Thr Ile Glu Asn Ile Ser Val Ser 155 160 165

Val His Gln Pro Gln Pro Lys His Ile Lys Leu Ala Lys Arg Arg 170 175 180

Ile Pro Pro Ala Ser Lys Ile Pro Ala Ser Ala Val Glu Met Pro 185 190 195

Gly Ser Ala Asp Val Thr Gly Leu Asn Val Gln Phe Gly Ala Leu 200 205 210

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Ser Leu Ser Glu Pro Leu Asn Thr Ser Leu Ser Met Thr Ser Ala
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                 245
Val Gln Asn Ser Thr Tyr Thr Thr Ser Val Ile Thr Ser Cys Ser
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Leu Thr Ser Ser Ser Leu Asn Ser Ala Ser Pro Val Ala Met Ser
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                                     280
Ser Ser Tyr Asp Gln Ser Ser Val His Asn Arg Ile Pro Tyr Gln
                                     295
                 290
Ser Pro Val Ser Ser Ser Glu Ser Ala Pro Gly Thr Ile Met Asn
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Gly His Gly Gly Gly Arg Ser Gln Gln Thr Leu Asp Ser Lys Tyr
                                                          330
                                     325
                 320
Ser Ser Lys Leu Leu Ser Trp Leu Val Pro Thr Lys Gln Arg
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Lys Arg Ile Ala His Val Met Trp Lys Thr Pro Val Gly Gln Trp
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Leu Ile Arg
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<223> Synthetic construct.
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<211> 22
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 tgcactcagc ggtggaggag acggacgcgg ggctgtacac ctgcaacctg 150
 caccatcact actgccacct ctacgagage ctggccgtcc gcctggaggt 200
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<211> 341 <212> PRT

<213> Homo sapiens

<400> 77

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Ala Gly Leu Tyr Thr Cys Asn Leu His His His Tyr Cys His Leu

Tyr Glu Ser Leu Ala Val Arg Leu Glu Val Thr Asp Gly Pro Pro 50 55 60

Ala Thr Pro Ala Tyr Trp Asp Gly Glu Lys Glu Val Leu Ala Val 65 70 75

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Ala Arg Gly Ala Pro Ala Leu Leu Thr Cys Val Asn Arg Gly His
Val Trp Thr Asp Arg His Val Glu Glu Ala Gln Gln Val Val His
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Trp Asp Arg Gln Pro Pro Gly Val Pro His Asp Arg Ala Asp Arg
                                    115
Leu Leu Asp Leu Tyr Ala Ser Gly Glu Arg Arg Ala Tyr Gly Pro
Leu Phe Leu Arg Asp Arg Val Ala Val Gly Ala Asp Ala Phe Glu
Arg Gly Asp Phe Ser Leu Arg Ile Glu Pro Leu Glu Val Ala Asp
                                    160
Glu Gly Thr Tyr Ser Cys His Leu His His His Tyr Cys Gly Leu
                                    175
                170
His Glu Arg Arg Val Phe His Leu Thr Val Ala Glu Pro His Ala
                                    190
                185
Glu Pro Pro Pro Arg Gly Ser Pro Gly Asn Gly Ser Ser His Ser
                                    205
Gly Ala Pro Gly Pro Asp Pro Thr Leu Ala Arg Gly His Asn Val
                                    220
Ile Asn Val Ile Val Pro Glu Ser Arg Ala His Phe Phe Gln Gln
                230
                                    235
Leu Gly Tyr Val Leu Ala Thr Leu Leu Leu Phe Ile Leu Leu
                                    250
Val Thr Val Leu Leu Ala Ala Arg Arg Arg Gly Gly Tyr Glu
                                    265
                260
Tyr Ser Asp Gln Lys Ser Gly Lys Ser Lys Gly Lys Asp Val Asn
                                    280
Leu Ala Glu Phe Ala Val Ala Ala Gly Asp Gln Met Leu Tyr Arg
                                    295
Ser Glu Asp Ile Gln Leu Asp Tyr Lys Asn Asn Ile Leu Lys Glu
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Arg Ala Glu Leu Ala His Ser Pro Leu Pro Ala Lys Tyr Ile Asp
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Leu Asp Lys Gly Phe Arg Lys Glu Asn Cys Lys
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<sup>&</sup>lt;210> 78

<sup>&</sup>lt;211> 2243

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<211> 475

<212> PRT

<213> Homo sapiens

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Leu Leu Glu Lys Leu Leu Asp Arg Pro Pro Pro Gly Leu Gln Arg

Pro Glu Asp Arg Phe Cys Gly Thr Tyr Ile Ile Phe Phe Ser Leu
50 55 60

Gly Ile Gly Ser Leu Leu Pro Trp Asn Phe Phe Ile Thr Ala Lys
65 70 75

Glu Tyr Trp Met Phe Lys Leu Arg Asn Ser Ser Ser Pro Ala Thr 80 85 90

Gly Glu Asp Pro Glu Gly Ser Asp Ile Leu Asn Tyr Phe Glu Ser 95 100 105

Tyr	Leu	Ala	Val	Ala 110	Ser	Thr	Val	Pro	Ser 115	Met	Leu	Cys	Leu	Val 120
Ala	Asn	Phe	Leu	Leu 125	Val	Asn	Arg	Val	Ala 130	Val	His	Ile	Arg	Val 135
Leu	Ala	Ser	Leu	Thr 140	Val	Ile	Leu	Ala	Ile 145	Phe	Met	Val	Ile	Thr 150
Ala	Leu	Val	Lys	Val 155	Asp	Thr	Ser	Ser	Trp 160	Thr	Arg	Gly	Phe	Phe 165
Ala	Val	Thr	Ile	Val 170	Cys	Met	Val	Ile	Leu 175	Ser	Gly	Ala	Ser	Thr 180
Val	Phe	Ser	Ser	Ser 185	Ile	Tyr	Gly	Met	Thr 190	Gly	Ser	Phe	Pro	Met 195
Arg	Asn	Ser	Gln	Ala 200	Leu	Ile	Ser	Gly	Gly 205	Ala	Met	Gly	Gly	Thr 210
Val	Ser	Ala	Val	Ala 215	Ser	Leu	Val	Asp	Leu 220	Ala	Ala	Ser	Ser	Asp 225
Val	Arg	Asn	Ser	Ala 230	Leu	Ala	Phe	Phe	Leu 235	Thr	Ala	Thr	Ile	Phe 240
Leu	Val	Leu	Cys	Met 245	Gly	Leu	Tyr	Leu	Leu 250	Leu	Ser	Arg	Leu	Glu 255
Tyr	Ala	Arg	Tyr	Tyr 260	Met	Arg	Pro	Val	Leu 265	Ala	Ala	His	Val	Phe 270
Ser	Gly	Glu	Glu	Glu 275	Leu	Pro	Gln	Asp	Ser 280	Leu	Ser	Ala	Pro	Ser 285
Val	Ala	Ser	Arg	Phe 290	Ile	Asp	Ser	His	Thr 295	Pro	Pro	Leu	Arg	Pro 300
Ile	Leu	Lys	Lys	Thr 305	Ala	Ser	Leu	Gly	Phe 310	Cys	Val	Thr	Tyr	Val 315
Phe	Phe	Ile	Thr	Ser 320	Leu	Ile	Tyr	Pro	Ala 325	Val	Cys	Thr	Asn	Ile 330
Glu	Ser	Leu	Asn	Lys 335	Gly	Ser	Gly	Ser	Leu 340	Trp	Thr	Thr	Lys	Phe 345
Phe	Ile	Pro	Leu	Thr 350	Thr	Phe	Leu	Leu	Tyr 355	Asn	Phe	Ala	Asp	Leu 360
Cys	Gly	Arg	Gln	Leu 365		Ala	Trp	Ile	Gln 370	Val	Pro	Gly	Pro	Asn 375
Ser	Lys	Ala	Leu	Pro 380		Phe	· Val	Leu	Leu 385	Arg	Thr	Cys	Leu	Ile 390
Pro	Leu	Phe	val	Leu	Cys	Asn	Tyr	Gln	Pro	Arg	Val	His	Leu	Lys

<211> 1844

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<212> DNA <213> Homo sapiens

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BELLEVIN AND

<210> 84 <211> 567 <212> PRT <213> Homo sapiens

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Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu 35 40 45

Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln 50 60

Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala 65 70 75

Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala 80 85 90

Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn 95 100 105

Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser 110 115 120

His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu 125 130 130

Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His 140 145 150

Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys 155 160 165

Leu	Gly	Tyr	Ala	Leu 170	Arg	Pro	Gln	Glu	Lys 175	Gly	His	Ser	Pro	Glu 180
Asp	Ile	Tyr	Gln	Met 185	Ala	Leu	Asn	Gln	Ala 190	Leu	Lys	Asp	Leu	Lys 195
Ala	Leu	Gly	Cys	Arg 200	Lys	Ala	Met	Lys	Lys 205	Phe	Glu	Arg	His	Thr 210
Leu	Leu	Glu	Tyr	Leu 215	Leu	Gly	Glu	Gly	Asn 220	Leu	Ser	Arg	Pro	Ala 225
Val	Gln	Leu	Leu	Gly 230	Asp	Val	Met	Ser	Glu 235	Asp	Gly	Phe	Phe	Tyr 240
Leu	Ser	Phe	Ala	Glu 245	Ala	Leu	Arg	Ala	His 250	Ser	Cys	Leu	Ser	Asp 255
Arg	Leu	Gln	Tyr	Ser 260	Arg	Ile	Val	Gly	Gly 265	Trp	Asp	Leu	Leu	Pro 270
Arg	Ala	Leu	Leu	Ser 275	Ser	Leu	Ser	Gly	Leu 280	Val	Leu	Leu	Asn	Ala 285
Pro	Val	Val	Ala	Met 290	Thr	Gln	Gly	Pro	His 295	Asp	Val	His	Val	Gln 300
Ile	Glu	Thr	Ser	Pro 305	Pro	Ala	Arg	Asn	Leu 310	Lys	Val	Leu	Lys	Ala 315
Asp	Val	Val	Leu	Leu 320	Thr	Ala	Ser	Gly	Pro 325	Ala	Val	Lys	Arg	Ile 330
Thr	Phe	Ser	Pro	Pro 335	Leu	Pro	Arg	His	Met 340	Gln	Glu	Ala	Leu	Arg 345
Arg	Leu	His	Tyr	Val 350	Pro	Ala	Thr	Lys	Val 355	Phe	Leu	Ser	Phe	Arg 360
Arg	Pro	Phe	Trp	Arg 365	Glu	Glu	His	Ile	Glu 370	Gly	Gly	His	Ser	Asn 375
Thr	Asp	Arg	Pro	Ser 380	Arg	Met	Ile	Phe	Tyr 385	Pro	Pro	Pro	Arg	Glu 390
Gly	Ala	Leu	Leu	Leu 395	Ala	Ser	Tyr	Thr	Trp 400	Ser	Asp	Ala	Ala	Ala 405
Ala	Phe	Ala	Gly	Leu 410	Ser	Arg	Glu	Glu	Ala 415	Leu	Arg	Leu	Ala	Leu 420
Asp	Asp	Val	Ala	Ala 425	Leu	His	Gly	Pro	Val 430	Val	Arg	Gln	Leu	Trp 435
Asp	Gly	Thr	Gly	Val 440	Val	Lys	Arg	Trp	Ala 445	Glu	Asp	Gln	His	Ser 450
Gln	Gly	Gly	Phe	Val	Val	Gln	Pro	Pro	Ala	Leu	Trp	Gln	Thr	Glu

				455					460					465
Lys	Asp	Asp	Trp	Thr 470	Val	Pro	Tyr	Gly	Arg 475	Ile	Tyr	Phe	Ala	Gly 480
Glu	His	Thr	Ala	Tyr 485	Pro	His	Gly	Trp	Val 490	Glu	Thr	Ala	Val	Lys 495
Ser	Ala	Leu	Arg	Ala 500	Ala	Ile	Lys	Ile	Asn 505	Ser	Arg	Lys	Gly	Pro 510
Ala	Ser	Asp	Thr	Ala 515	Ser	Pro	Glu	Gly	His 520	Ala	Ser	Asp	Met	Glu 525
Gly	Gln	Gly	His	Val 530	His	Gly	Val	Ala	Ser 535	Ser	Pro	Ser	His	Asp 540
Leu	Ala	Lys	Glu	Glu 545	Gly	Ser	His	Pro	Pro 550	Val	Gln	Gly	Gln	Leu 555
Ser	Leu	Gln	Asn	Thr 560	Thr	His	Thr	Arg	Thr 565	Ser	His			

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<212> PRT

<213> Homo sapiens

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Leu	Pro	Leu	Ala	His 365	Met	Phe	Glu	Arg	Ile 370	Val	Gln	Ala	Val	Val 375
Tyr	Ser	Cys	Gly	Ala 380	Arg	Val	Gly	Phe	Phe 385	Gln	Gly	Asp	Ile	Arg 390
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Ala	Val	Pro	Arg	Leu 410	Leu	Asn	Arg	Ile	Tyr 415	Asp	Lys	Val	Gln	Asn 420
Glu	Ala	Lys	Thr	Pro 425	Leu	Lys	Lys	Phe	Leu 430	Leu	Lys	Leu	Ala	Val 435
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Thr	Ser	Val	Met	Thr 485	Phe	Phe	Arg	Ala	Ala 490	Met	Gly	Суз	Gln	Val 495
Tyr	Glu	Ala	Tyr	Gly 500	Gln	Thr	Glu	Cys	Thr 505	Gly	Gly	Cys	Thr	Phe 510
Thr	Leu	Pro	Gly	Asp 515	Trp	Thr	Ser	Gly	His 520	Val	Gly	Val	Pro	Leu 525
Ala	Cys	Asn	Tyr	Val 530		Leu	Glu	Asp	Val 535	Ala	Asp	Met	Asn	Tyr 540
Phe	Thr	Val	Asn	Asn 545	Glu	Gly	Glu	Val	Cys 550	Ile	Lys	Gly	Thr	Asn 555
Val	Phe	Lys	Gly	Tyr 560	Leu	Lys	Asp	Pro	Glu 565	Lys	Thr	Gln	Glu	Ala 570
Leu	Asp	Ser	Asp	Gly 575	Trp	Leu	His	Thr	Gly 580	Asp	Ile	Gly	Arg	Trp 585
Leu	Pro	Asn	Gly	Thr 590	Leu	Lys	Ile	Ile	Asp 595	Arg	Lys	Lys	Asn	Ile 600
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Thr Asp Val Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly
Ser Phe Glu Glu Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile
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Leu Glu Asp Leu Gln Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr
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                                    685
Phe Glu Gln Val Lys Ala Ile Phe Leu His Pro Glu Pro Phe Ser
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                                    700
                                                         705
Ile Glu Asn Gly Leu Leu Thr Pro Thr Leu Lys Ala Lys Arg Gly
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His Ile Gln Asp

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<211> 2725

<212> DNA

<213> Homo sapiens

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<213> Homo sapiens

<400> 88

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Phe Leu Leu Val Thr Val Ile Val Asn Ile Lys Leu Ile Leu Asp 55

Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg

Arg Gly Ser Gly Pro Arg Arg Val Leu Asp Val Glu Val Tyr Ser 105

Ser Arg Ser Lys Val Tyr Val Ala Val Asp Gly Thr Thr Val Leu

Glu Asp Glu Ala Arg Glu Gln Gly Arg Gly Ile His Val Ile Val 135

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Trp	Pro	Thr	Pro	Glu 470	Lys	Leu	Trp	Asp	Trp 475	Asp	Met	Trp	Met	Arg 480
Met	Pro	Glu	Gln	Arg 485	Arg	Gly	Arg	Glu	Cys 490	Ile	Ile	Pro	Asp	Val 495
Ser	Arg	Ser	Tyr	His 500	Phe	Gly	Ile	Val	Gly 505	Leu	Asn	Met	Asn	Gly 510
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Pro	Gly	Val	Gln	Leu 530	Arg	Asn	Val	Asp	Ser 535	Leu	Lys	Lys	Glu	Ala 540
Tyr	Glu	Val	Glu	Val 545	His	Arg	Leu	Leu	Ser 550	Glu	Ala	Glu	Val	Leu 555
Asp	His	Ser	Lys	Asn 560	Pro	Cys	Glu	Asp	Ser 565	Phe	Leu	Pro	Asp	Thr 570
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Asp	Leu	Asp	Val	Arg 605	Gly	Asn	His	Arg	Gly 610	Leu	Trp	Arg	Leu	Phe 615
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Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His
50 55 60

Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser
65 70 75

Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser 80 85 90

Val Val His Glu His Glu His Ser His Asp His Thr Gln Leu His
95 100 105

Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu 110 115 120

Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp 125 130 135

Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Leu 140 145 150

Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala 155 160 165

Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val 170 175 180

Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser 185 190 195

Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His 200 205 210

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Asn Tyr Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln Thr Arg 35 40 45

Ile Met Glu Leu Glu Gly Arg Val Arg Arg Ala Ala Ala Glu Arg 50 55 60

Gly Ala Val Glu Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu
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Lys Gln Arg Glu Gln Leu Asp Lys Ile Gln Ser Ser His Asn Phe 80 85 90

Gln Leu Glu Ser Val Asn Lys Leu Tyr Gln Asp Glu Lys Ala Val 95 100 105

Leu Val Asn Asn Ile Thr Thr Gly Glu Arg Leu Ile Arg Val Leu 110 115 120

Gln Asp Gln Leu Lys Thr Leu Gln Arg Asn Tyr Gly Arg Leu Gln 125 130 135

Gln Asp Val Leu Gln Phe Gln Lys Asn Glń Thr Asn Leu Glu Arg \$140\$ \$145\$ \$150\$

Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile Asn Gln Met Lys Glu 155 160 165

Val Lys Glu Gln Cys Glu Glu Arg Ile Glu Glu Val Thr Lys Lys 170 175 180

Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu Asn Asn Asp 185 190 195

Gln Arg Gln Gln Leu Gln Ala Leu Ser Glu Pro Gln Pro Arg Leu 200 205 210

Gln Ala Ala Gly Leu Pro His Thr Glu Val Pro Gln Gly Lys Gly 215 220 225

Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser 230 235 240

10710 59

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Asn Glu Ile Gln Val Val Asn Glu Glu Pro Gln Arg Asp Arg Leu
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Gly Gly Arg Gly Phe Gly Gly Ala Gly Glu Leu Gly Gln Thr Pro
Gln Val Gln Ala Ala Leu Ser Val Ser Gln Glu Asn Pro Glu Met
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Glu Gly Pro Glu Arg Asp Gln Leu Val Ile Pro Asp Gly Gln Glu
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Glu Glu Gln Glu Ala Ala Gly Glu Gly Arg Asn Gln Gln Lys Leu
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Arg Gly Glu Asp Asp Tyr Asn Met Asp Glu Asn Glu Ala Glu Ser
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Glu Thr Asp Lys Gln Ala Ala Leu Ala Gly Asn Asp Arg Asn Ile
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gcgcctcaag gccctcacca ctggctcact gcctacctt attgatgctg 450
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Gly Pro Gly Ser Leu Pro Trp Gly Ser Gln Gly Lys Pro Gly Ala
50 55 60

Cys Trp Met Ala Ser Arg Phe Ser Arg Val Val Leu Val Leu Ile 65 70 75

Asp Ala Leu Arg Phe Asp Phe Ala Gln Pro Gln His Ser His Val 80 85 90

Pro Arg Glu Pro Pro Val Ser Leu Pro Phe Leu Gly Lys Leu Ser 95 100 105

Ser Leu Gln Arg Ile Leu Glu Ile Gln Pro His His Ala Arg Leu 110 115 120

Tyr Arg Ser Gln Val Asp Pro Pro Thr Thr Thr Met Gln Arg Leu 125 130 135

Lys Ala Leu Thr Thr Gly Ser Leu Pro Thr Phe Ile Asp Ala Gly 140 145 150

Ser Asn Phe Ala Ser His Ala Ile Val Glu Asp Asn Leu Ile Lys 155 160 165

Gln Leu Thr Ser Ala Gly Arg Arg Val Val Phe Met Gly Asp Asp 170 175 180

Thr Trp Lys Asp Leu Phe Pro Gly Ala Phe Ser Lys Ala Phe Phe 185 190 195

Phe Pro Ser Phe Asn Val Arg Asp Leu Asp Thr Val Asp Asn Gly

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1.00 MA 1

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Thr	Leu	Phe	Pro	Ile 545	Pro	Gly	Pro	Val	Leu 550	Leu	Leu	Leu	Leu	Phe 555
Arg	Leu	Ala	Val	Phe 560	Phe	Ser	Asp	Ser	Phe 565	Val	Val	Ala	Glu	Ala 570
Arg	Ala	Thr	Pro	Phe 575	Leu	Leu	Gly	Ser	Phe 580	Ile	Leu	Leu	Leu	Val 585
Val	Gln	Leu	His	Trp 590	Glu	Gly	Gln	Leu	Leu 595	Pro	Pro	Lys	Leu	Leu 600
Thr	Met	Pro	Arg	Leu 605	Gly	Thr	Ser	Ala	Thr 610	Thr	Asn	Pro	Pro	Arg 615
His	Asn	Gly	Ala	Tyr 620	Ala	Leu	Arg	Leu	Gly 625	Ile	Gly	Leu	Leu	Leu 630
Cys	Thr	Arg	Leu	Ala 635	Gly	Leu	Phe	His	Arg 640	Cys	Pro	Glu	Glu	Thr 645
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Leu	Val	Lys	Ala	Gly 770	Ala	Gly	Ala	Pro	Arg 775	Thr	Arg	Thr	Val	Leu 780
Thr	Pro	Phe	Ser	Gly	Pro	Pro	Thr	Ser	Gln	Ala	Asp	Leu	Asp	Tyr

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Val	Val	Pro	Gln	Ile 800	Tyr	Arg	His	Met	Gln 805	Glu	Glu	Phe	Arg	Gly 810
Arg	Leu	Glu	Arg	Thr 815	Lys	Ser	Gln	Gly	Pro 820	Leu	Thr	Val	Ala	Ala 825
Tyr	Gln	Leu	Gly	Ser 830	Val	Tyr	Ser	Ala	Ala 835	Met	Val	Thr	Ala	Leu 840
Thr	Leu	Leu	Ala	Phe 845	Pro	Leu	Leu	Leu	Leu 850	His	Ala	Glu	Arg	Ile 855
Ser	Leu	Val	Phe	Leu 860	Leu	Leu	Phe	Leu	Gln 865	Ser	Phe	Leu	Leu	Leu 870
His	Leu	Leu	Ala	Ala 875	Gly	Ile	Pro	Val	Thr 880	Thr	Pro	Gly	Pro	Phe 885
Thr	Val	Pro	Trp	Gln 890	Ala	Val	Ser	Ala	Trp 895	Ala	Leu	Met	Ala	Thr 900
Gln	Thr	Phe	Tyr	Ser 905	Thr	Gly	His	Gln	Pro 910	Val	Phe	Pro	Ala	Ile 915
His	Trp	His	Ala	Ala 920	Phe	Val	Gly	Phe	Pro 925	Glu	Gly	His	Gly	Ser 930
Cys	Thr	Trp	Leu	Pro 935	Ala	Leu	Leu	Val	Gly 940	Ala	Asn	Thr	Phe	Ala 945
Ser	His	Leu	Leu	Phe 950	Ala	Val	Gly	Cys	Pro 955	Leu	Leu	Leu	Leu	Trp 960
Pro	Phe	Leu	Cys	Glu 965	Ser	Gln	Gly	Leu	Arg 970	Lys	Arg	Gln	Gln	Pro 975
Pro	Gly	Asn	Glu	Ala 980	Asp	Ala	Arg	Val	Arg 985	Pro	Glu	Glu	Glu	Glu 990
Glu	Pro	Leu	Met	Glu 995	Met	Arg	Leu		Asp 1000	Ala	Pro	Gln	His 1	Phe L005
Tyr	Ala	Ala		Leu L010	Gln	Leu	Gly		Lys 1015	Tyr	Leu	Phe	Ile 1	Leu 1020
Gly	Ile	Gln		Leu L025	Ala	Cys	Ala		Ala 1030	Ala	Ser	Ile	Leu 1	Arg 1035
Arg	His	Leu		Val L040	Trp	Lys	Val		Ala 1045	Pro	Lys	Phe	Ile 1	Phe 1050
Glu	Ala	Val		Phe 1055	Ile	Val	Ser		Val 1060	Gly	Leu	Leu	Leu 1	Gly 1065
Ile	Ala	Leu		Met L070	Arg	Val	Asp		Ala 1075	Val	Ser	Ser	Trp	Phe 1080

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SERVICE AND

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catgcaattc atggaggaat gggggttata tgtgcagatg gaaaactgat 1450
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<213> Homo sapiens

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Ile	His	Val	Gly	Lys 170	Glu	Lys	His	Pro	Ala 175	Asn	Leu	Ile	Leu	Ile 180
Tyr	Gly	Asn	Glu	Phe 185	Asp	Lys	Arg	Phe	Phe 190	Val	Pro	Ala	Glu	Lys 195
Ile	Val	Ile	Asn	Phe 200	Ile	Thr	Leu	Asn	Ile 205	Ser	Asp	Asp	Ser	Lys 210
Ile	Ser	His	Gln	Asp 215	Met	Ser	Leu	Leu	Gly 220	Lys	Ser	Ser	Asp	Val 225
Ser	Ser	Leu	Asn	Asp 230	Pro	Gln	Pro	Ser	Gly 235	Asn	Leu	Arg	Pro	Pro 240
Gln	Glu	Glu	Glu	Glu 245	Val	Lys	His	Leu	Gly 250	Tyr	Ala	Ser	His	Leu 255
Met	Glu	Ile	Phe	Cys 260	Asp	Ser	Glu	Glu	Asn 265	Thr	Glu	Gly	Thr	Ser 270
Leu	Thr	Gln	Gln	Glu 275	Ser	Leu	Ser	Arg	Thr 280	Ile	Pro	Pro	Asp	Lys 285
Thr	Val	Ile	Glu	Tyr 290	Glu	Tyr	Asp	Val	Arg 295	Thr	Thr	Asp	Ile	Cys 300
Ala	Gly	Pro	Glu	Glu 305	Gln	Glu	Leu	Ser	Leu 310	Gln	Glu	Glu	Val	Ser 315
Thr	Gln	Gly	Thr	Leu 320	Leu	Glu	Ser	Gln	Ala 325	Ala	Leu	Ala	Val	Leu 330
Gly	Pro	Gln	Thr	Leu 335	Gln	Tyr	Ser	Tyr	Thr 340	Pro	Gln	Leu	Gln	Asp 345
Leu	Asp	Pro	Leu	Ala 350	Gln	Glu	His	Thr	Asp 355	Ser	Glu	Glu	Gly	Pro 360
Glu	Glu	Glu	Pro	Ser 365	Thr	Thr	Leu	Val	Asp 370	Trp	Asp	Pro	Gln	Thr 375
Gly	Arg	Leu	Cys	Ile 380	Pro	Ser	Leu	Ser	Ser 385	Phe	Asp	Gln	Asp	Ser 390
Glu	Gly	Cys	Glu	Pro 395	Ser	Glu	Gly	Asp	Gly 400	Leu	Gly	Glu	Glu	Gly 405
Leu	Leu	Ser	Arg	Leu 410	Tyr	Glu	Glu	Pro	Ala 415	Pro	Asp	Arg	Pro	Pro 420
Gly	Glu	Asn	Glu	Thr 425	Tyr	Leu	Met	Gln	Phe 430	Met	Glu	Glu	Trp	Gly 435
Leu	Tyr	Val	Gln	Met	Glu	Asn								

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<400> 105
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<222> 1-18
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<400> 106
cagtgtgcca ggactttg 18
<210> 107
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<222> 1-18
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<400> 107
agtcgcaggc agcgttgg 18
<210> 108
<211> 25
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<222> 1-25
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<400> 108
 ctcctccgag tctgtgtgct cctgc 25
<210> 109
<211> 51
<212> DNA
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<220>
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<221> Artificial Sequence

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<223> Synthetic construct.
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ggacgggcag ttccctgtgt ctctggtggt ttgcctaaac ctgcaaacat 50
c 51
<210> 110
<211> 1114
<212> DNA
<213> Homo sapiens
<400> 110
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cgccagcctg cgtctgccat ggggctcggg ttgaggggct ggggacgtcc 100
tctgctgact gtggccaccg ccctgatgct gcccgtgaag ccccccgcag 150
gctcctgggg ggcccagatc atcgggggcc acgaggtgac cccccactcc 200
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acagagacct ccgcactggc ctggtggtgc tgggcgccca cgtcctgagt 350
actgcggagc ccacccagca ggtgtttggc atcgatgctc tcaccacgca 400
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<210> 111

<211> 283

<212> PRT

<213> Homo sapiens

<400> 111

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Ala Thr Ala Leu Met Leu Pro Val Lys Pro Pro Ala Gly Ser Trp 20 25 30

Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg 40 45

Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly 50 55 60

Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys
65 70 75

Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala 80 85 90

His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile 95 100 105

Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala 110 115 120

Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly 125 130 135

Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro 140 145 150

Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val 155 160 165

Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val 170 175 180

Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His
185 190 190

Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg 200 205 210

Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg 215 220 225

Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly 230 235 240

Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val 245 250 255

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 tatgtcaccg gtggggcttg ccccagcaag gccaccatcc ctgggaagac 200
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11.1

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<210> 116

<211> 331

<212> PRT

<213> Homo sapiens

<400> 116

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Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys
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Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly 35 40 45

Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg 50 55 60

Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys
65 70 75

Glu Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His 80 85 90

Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg 95 100 105

Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile 110 115 120

Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr Thr 125 130 135

Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His 140 145 150

Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys Leu Lys Ala Ser Ala 155 160 165

Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly 170 175 180

His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn 185 190 195

Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe 200 205 210

Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val 215 220 225

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Asn Ala Leu His Pro 230 Gly Val Ala Arg Thr Glu Leu Gly Arg His 240

Thr Gly Ile His Gly Ser Thr Phe Ser Ser Thr Thr Leu Gly Pro 255

Ile Phe Trp Leu Leu 260 Val Lys Ser Pro Glu Leu Ala Ala Gln Pro 270

Ser Thr Tyr Leu Ala 275 Val Ala Glu Glu Leu 280 Ala Asp Val Ser Gly 285

Lys Tyr Phe Asp Gly Leu Lys Gln Lys Ala 295 Pro Ala Pro Glu Ala 300

Glu Asp Glu Glu Val 305 Ala Arg Arg Leu Trp 310 Ala Glu Ser Ala Arg 315

Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Glu Gln Pro Leu Pro 330
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Arg

<210> 117 <211> 2249 <212> DNA <213> Homo sapiens

(210) 1101110 5

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 gggcgacacg ttctcggcgc tgaccagcgt ggcggcgcc ctggcgcccg 150
 agcgccggct gctggggctg ctgaggcggt acctgcgcgg ggaggaggcg 200
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 ggattcaaca acccctgtgg ctaaccctct gcttgcattt acctctatca 300
 aacgcctgca gtctgactgg aggaatgtgg tacatagtct ggaggccagt 350
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agatgccttg gatcacttgg cctttgctta tttccgggca ggaaatgttt 750 cgtgtgccct cagcctctct cgggagtttc ttctctacag cccagataat 800 aagaggatgg ccaggaatgt cttgaaatat gaaaggctct tggcagagag 850 ccccaaccac gtggtagctg aggctgtcat ccagaggccc aatatacccc 900 acctgcagac cagagacace tacgaggggc tatgtcagac cctgggttcc 950 cagoccacto totaccagat coctagooto tactgttoot atgagaccaa 1000 ttccaacgcc tacctgctgc tccagcccat ccggaaggag gtcatccacc 1050 tggagcccta cattgctctc taccatgact tcgtcagtga ctcagaggct 1100 cagaaaatta gagaacttgc agaaccatgg ctacagaggt cagtggtggc 1150 atcaggggag aagcagttac aagtggagta ccgcatcagc aaaagtgcct 1200 ggctgaagga cactgttgac ccaaaactgg tgaccctcaa ccaccgcatt 1250 gctgccctca caggccttga tgtccggcct ccctatgcag agtatctgca 1300 ggtggtgaac tatggcatcg gaggacacta tgagcctcac tttgaccatg 1350 ctacgtcacc aagcagccc ctctacagaa tgaagtcagg aaaccgagtt 1400 gcaacattta tgatctatct gagctcggtg gaagctggag gagccacagc 1450 cttcatctat gccaacctca gcgtgcctgt ggttaggaat gcagcactgt 1500 tttggtggaa cctgcacagg agtggtgaag gggacagtga cacacttcat 1550 gctggctgtc ctgtcctggt gggagataag tgggtggcca acaagtggat 1600 acatgagtat ggacaggaat tccgcagacc ctgcagctcc agccctgaag 1650 actgaactgt tggcagagag aagctggtgg agtcctgtgg ctttccagag 1700 aagccaggag ccaaaagctg gggtaggaga ggagaaagca gagcagcctc 1750 ctggaagaag gccttgtcag ctttgtctgt gcctcgcaaa tcagaggcaa 1800 gggagaggtt gttaccaggg gacactgaga atgtacattt gatctgcccc 1850 agccacggaa gtcagagtag gatgcacagt acaaaggagg ggggagtgga 1900 ggcctgagag ggaagtttct ggagttcaga tactctctgt tgggaacagg 1950 acatctcaac agtctcaggt tcgatcagtg ggtcttttgg cactttgaac 2000 cttgaccaca gggaccaaga agtggcaatg aggacacctg caggagggc 2050 tagectgact cecagaactt taagacttte teeceactge ettetgetge 2100 ageccaagea gggagtgtee eesteecaga ageatateee agatgagtgg 2150

· quanto ma

tacattatat aaggattitt titaagttga aaacaactti citticitti 2200 tgtatgatgg tittitaaca cagtcattaa aaatgttiat aaatcaaaa 2249

<210> 118

<211> 544

<212> PRT

<213> Homo sapiens

<400> 118

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Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg
35 40 45

Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala 50 55 60

Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu 65 70 75

His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe 80 85 90

Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His
95 100 105

Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr 110 115 120

Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly
125 130 135

Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn 140 145 150

Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser 155 160 165

Ala Ile Thr Asp Leu Tyr Ser Pro Lys Arg Leu Phe Ser Leu Thr 170 175 180

Gly Asp Asp Cys Phe Gln Val Gly Lys Val Ala Tyr Asp Met Gly 185 190 195

Asp Tyr Tyr His Ala Ile Pro Trp Leu Glu Glu Ala Val Ser Leu 200 205 210

Phe Arg Gly Ser Tyr Gly Glu Trp Lys Thr Glu Asp Glu Ala Ser 215 220 225

Leu Glu Asp Ala Leu Asp His Leu Ala Phe Ala Tyr Phe Arg Ala 230 235 240

1191 \*

Gly Asn Val Ser Cys Ala Leu Ser Leu Ser Arg Glu Phe Leu Leu 250 Tyr Ser Pro Asp Asn Lys Arg Met Ala Arg Asn Val Leu Lys Tyr Glu Arg Leu Leu Ala Glu Ser Pro Asn His Val Val Ala Glu Ala 280 Val Ile Gln Arg Pro Asn Ile Pro His Leu Gln Thr Arg Asp Thr 295 Tyr Glu Gly Leu Cys Gln Thr Leu Gly Ser Gln Pro Thr Leu Tyr 310 Gln Ile Pro Ser Leu Tyr Cys Ser Tyr Glu Thr Asn Ser Asn Ala Tyr Leu Leu Leu Gln Pro Ile Arg Lys Glu Val Ile His Leu Glu 335 Pro Tyr Ile Ala Leu Tyr His Asp Phe Val Ser Asp Ser Glu Ala 355 Gln Lys Ile Arg Glu Leu Ala Glu Pro Trp Leu Gln Arg Ser Val 365 Val Ala Ser Gly Glu Lys Gln Leu Gln Val Glu Tyr Arg Ile Ser 385 Lys Ser Ala Trp Leu Lys Asp Thr Val Asp Pro Lys Leu Val Thr 395 Leu Asn His Arg Ile Ala Ala Leu Thr Gly Leu Asp Val Arg Pro 410 Pro Tyr Ala Glu Tyr Leu Gln Val Val Asn Tyr Gly Ile Gly Gly His Tyr Glu Pro His Phe Asp His Ala Thr Ser Pro Ser Ser Pro 445 440 Leu Tyr Arg Met Lys Ser Gly Asn Arg Val Ala Thr Phe Met Ile Tyr Leu Ser Ser Val Glu Ala Gly Gly Ala Thr Ala Phe Ile Tyr 475 470 Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp 490 495 485 Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His Ala Gly Cys Pro Val Leu Val Gly Asp Lys Trp Val Ala Asn Lys 515 Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser <211> 23 <212> DNA

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Ser Pro Glu Asp

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 119

cgggacagga gacccagaaa ggg 23

<210> 120

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 120

ggccaagtga tccaaggcat cttc 24

<210> 121

<211> 49

<212> DNA

<213> Artificial

<220>

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<221> Artificial Sequence

<222> 1-49

<223> Synthetic construct.

<400> 121

ctgcgggacc tgactagatt ctacgacaag gtactttctt tgcatgggg 49

<210> 122

<211> 1778

<212> DNA

<213> Homo sapiens

<400> 122

gagataggga gtctgggttt aagttcctgc tccatctcag gagcccctgc 50

teccaecect aggaageeac cagacteeac ggtgtgggge caateaggtg 100

gaatcggccc tggcaggtgg ggccacgagc gctggctgag ggaccgagcc 150

ggagagcccc ggagcccccg taacccgcgc ggggagcgcc caggatgccg 200

A STATE OF THE PERSON OF THE P

cgcggggact cggagcaggt gcgctactgc gcgcgcttct cctacctctg 250 gctcaagttt tcacttatca tctattccac cgtgttctgg ctgattgggg 300 ccctggtcct gtctgtgggc atctatgcag aggttgagcg gcagaaatat 350 aaaacccttg aaagtgcctt cctggctcca gccatcatcc tcatcctcct 400 gggcgtcgtc atgttcatgg tctccttcat tggtgtgctg gcgtccctcc 450 gtgacaacct gtaccttctc caagcattca tgtacatcct tgggatctgc 500 ctcatcatgg agctcattgg tggcgtggtg gccttgacct tccggaacca 550 gaccattgac ttcctgaacg acaacattcg aagaggaatt gagaactact 600 atgatgatct ggacttcaaa aacatcatgg actttgttca gaaaaagttc 650 aagtgctgtg gcggggagga ctaccgagat tggagcaaga atcagtacca 700 cgactgcagt gcccctggac ccctggcctg tggggtgccc tacacctgct 750 gcatcaggaa cacgacagaa gttgtcaaca ccatgtgtgg ctacaaaact 800 atcgacaagg agcgtttcag tgtgcaggat gtcatctacg tgcggggctg 850 caccaacgcc gtgatcatct ggttcatgga caactacacc atcatggcgt 900 gcatcctcct gggcatcctg cttccccagt tcctgggggt gctgctgacg 950 ctgctgtaca tcacccgggt ggaggacatc atcatggagc actctgtcac 1000 tgatgggctc ctggggcccg gtgccaagcc cagcgtggag gcggcaggca 1050 cgggatgctg cttgtgctac cccaattagg gcccagcctg ccatggcagc 1100 tccaacaagg accgtctggg atagcacctc tcagtcaaca tcgtggggct 1150 ggacaggget geggeeete tgeecacact cagtactgae caaageeagg 1200 getgtgtgt cetgtgtgta ggtcccacgg cetetgcete cecagggage 1250 agagcctggg cctcccctaa gaggctttcc ccgaggcagc tctggaatct 1300 gtgcccacct ggggcctggg gaacaaggcc ctcctttctc caggcctggg 1350 ctacagggga gggagagcct gaggctctgc tcagggccca tttcatctct 1400 ggcagtgcct tggcggtggt attcaaggca gttttgtagc acctgtaatt 1450 ggggagaggg agtgtgcccc tcggggcagg agggaagggc atctggggaa 1500 gggcaggagg gaagagctgt ccatgcagcc acgcccatgg ccaggttggc 1550 ctcttctcag cctcccaggt gccttgagcc ctcttgcaag ggcggctgct 1600 teettgagee tagtttttt ttaegtgatt tttgtaacat teatttttt 1650

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<210> 123

<211> 294

<212> PRT

<213> Homo sapiens

<400> 123

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Ser Tyr Leu Trp Leu Lys Phe Ser Leu Ile Ile Tyr Ser Thr Val 20 25 30

Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala

Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu 50 55 60

Ala Pro Ala Ile Ile Leu Ile Leu Gly Val Val Met Phe Met 65 70 75

Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr 80 85 90

Leu Leu Gl<br/>n Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met 95<br/> 100 105

Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr 110 115 120

Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr 125 130 135

Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys 140 145 150

Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys 155 160 165

Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly 170 175 180

Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn 185 190 195

Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val 200 205 210

Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile 215 220 225

Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly

<210> 127 <211> 1636 <212> DNA

<213> Homo sapiens

240 230 235 Ile Leu Leu Pro Gln Phe Leu Gly Val Leu Leu Thr Leu Leu Tyr 250 Ile Thr Arg Val Glu Asp Ile Ile Met Glu His Ser Val Thr Asp Gly Leu Leu Gly Pro Gly Ala Lys Pro Ser Val Glu Ala Ala Gly 275 280 Thr Gly Cys Cys Leu Cys Tyr Pro Asn 290 <210> 124 <211> 25 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-25 <223> Synthetic construct. <400> 124 atcatctatt ccaccgtgtt ctggc 25 <210> 125 <211> 25 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-25 <223> Synthetic construct. <400> 125 gacagagtgc tccatgatga tgtcc 25 <210> 126 <211> 50 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-50 <223> Synthetic construct. <400> 126 cctgtctgtg ggcatctatg cagaggttga gcggcagaaa tataaaaccc 50

17 (81)

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gaatcctcac tgaccaagga tgcccttgtg cttactccag cctccttgtg 1500 gaaacccagc tctcctgtct cccagtgaag acttggatgg cagccatcag 1550 ggaaggctgg gtcccagctg ggagtatggg tgtgagctct atagaccatc 1600 cctctctgca atcaataaac acttgcctgt gaaaaa 1636

<210> 128

<211> 484

<212> PRT

<213> Homo sapiens

<400> 128

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Ala Thr Leu Ile Gln Ala Thr Leu Ser Pro Thr Ala Val Leu Ile 20 25 30

Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys
35 40 45

Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser 50 55 60

Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser 65 70 75

Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile 80 85 90

Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp 95 100 105

Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe 110 115 120

Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr 125 130 135

Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro  $140 \hspace{1cm} 145 \hspace{1cm} 150 \hspace{1cm}$ 

Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu 155 160 165

Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu 170 175 180

Ala Lys Gln Val Met Asn Leu Leu Val Pro Ser Leu Pro Asn Leu 185 190 195

Val Lys Asn Gln Leu Cys Pro Val Ile Glu Ala Ser Phe Asn Gly 200 205 210

Met Tyr Ala Asp Leu Leu Gln Leu Val Lys Val Pro Ile Ser Leu 215 220 225

1.00

Ser	Ile	Asp	Arg	Leu 230	Glu	Phe	Asp	Leu	Leu 235	Tyr	Pro	Ala	Ile	Lys 240
Gly	Asp	Thr	Ile	Gln 245	Leu	Tyr	Leu	Gly	Ala 250	Lys	Leu	Leu	Asp	Ser 255
Gln	Gly	Lys	Val	Thr 260	Lys	Trp	Phe	Asn	Asn 265	Ser	Ala	Ala	Ser	Leu 270
Thr	Met	Pro	Thr	Leu 275	Asp	Asn	Ile	Pro	Phe 280	Ser	Leu	Ile	Val	Ser 285
Gln	Asp	Val	Val	Lys 290	Ala	Ala	Val	Ala	Ala 295	Val	Leu	Ser	Pro	Glu 300
Glu	Phe	Met	Val	Leu 305	Leu	Asp	Ser	Val	Leu 310	Pro	Glu	Ser	Ala	His 315
Arg	Leu	Lys	Ser	Ser 320	Ile	Gly	Leu	Ile	Asn 325	Glu	Lys	Ala	Ala	Asp 330
Lys	Leu	Gly	Ser	Thr 335	Gln	Ile	Val	Lys	Ile 340	Leu	Thr	Gln	Asp	Thr 345
Pro	Glu	Phe	Phe	Ile 350	Asp	Gln	Gly	His	Ala 355	Lys	Val	Ala	Gln	Leu 360
Ile	Val	Leu	Glu	Val 365	Phe	Pro	Ser	Ser	Glu 370	Ala	Leu	Arg	Pro	Leu 375
Phe	Thr	Leu	Gly	Ile 380	Glu	Ala	Ser	Ser	Glu 385	Ala	Gln	Phe	Tyr	Thr 390
Lys	Gly	Asp	Gln	Leu 395	Ile	Leu	Asn	Leu	Asn 400	Asn	Ile	Ser	Ser	Asp 405
Arg	Ile	Gln	Leu	Met 410	Asn	Ser	Gly	Ile	Gly 415	Trp	Phe	Gln	Pro	Asp 420
Val	Leu	Lys	Asn	Ile 425	Ile	Thr	Glu	Ile	Ile 430	His	Ser	Ile	Leu	Leu 435
Pro	Asn	Gln	Asn	Gly 440	Lys	Leu	Arg	Ser	Gly 445	Val	Pro	Val	Ser	Leu 450
Val	Lys	Ala	Leu	Gly 455	Phe	Glu	Ala	Ala	Glu 460	Ser	Ser	Leu	Thr	Lys 465
Asp	Ala	Leu	Val	Leu 470	Thr	Pro	Ala	Ser	Leu 475	Trp	Lys	Pro	Ser	Ser 480

Pro Val Ser Gln

<sup>&</sup>lt;210> 129 <211> 2213 <212> DNA <213> Homo sapiens

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<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

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Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln 20 25 30

Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met
35 40 45

Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys  $50 \hspace{1cm} 55 \hspace{1cm} 60$ 

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile 65 70 75

Val Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys 80 85 90

Lys Gln Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg 95 100 105

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Tyr Ser Ser Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp
Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser
                                    130
Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg
Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu Gln
                155
Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val
                170
Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu
                185
Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser Asn Met
                                     205
                200
Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys
Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
                230
                                     235
Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn
                                     250
Tyr Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His
                                     265
Ile Val Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu
                                     280
Leu Cys Glu Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys
                290
                                     295
                                                         300
Ile Met Cys Val Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser
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Trp Met Leu Ser Ile Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr
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Ser Phe Leu Met Ser
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<210> 131

<211> 2476

<212> DNA

<213> Homo sapiens

<400> 131
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tcagaaccgc taccggcgat gctactgctg tgggtgtcgg tggtcgcagc 150 cttggcgctg gcggtactgg cccccggagc aggggagcag aggcggagag 200 cagccaaagc gcccaatgtg gtgctggtcg tgagcgactc cttcgatgga 250 aggttaacat ttcatccagg aagtcaggta gtgaaacttc cttttatcaa 300 ctttatgaag acacgtggga cttcctttct gaatgcctac acaaactctc 350 caatttgttg cccatcacgc gcagcaatgt ggagtggcct cttcactcac 400 ttaacagaat cttggaataa ttttaagggt ctagatccaa attatacaac 450 atggatggat gtcatggaga ggcatggcta ccgaacacag aaatttggga 500 aactggacta tacttcagga catcactcca ttagtaatcg tgtggaagcg 550 tggacaagag atgttgcttt cttactcaga caagaaggca ggcccatggt 600 taatcttatc cgtaacagga ctaaagtcag agtgatggaa agggattggc 650 agaatacaga caaagcagta aactggttaa gaaaggaagc aattaattac 700 actgaaccat ttgttattta cttgggatta aatttaccac acccttaccc 750 ttcaccatct tctggagaaa attttggatc ttcaacattt cacacatctc 800 tttattggct tgaaaaagtg tctcatgatg ccatcaaaat cccaaagtgg 850 tcacctttgt cagaaatgca ccctgtagat tattactctt cttatacaaa 900 aaactgcact ggaagattta caaaaaaaga aattaagaat attagagcat 950 tttattatgc tatgtgtgct gagacagatg ccatgcttgg tgaaattatt 1000 ttggcccttc atcaattaga tcttcttcag aaaactattg tcatatactc 1050 ctcagaccat ggagagctgg ccatggaaca tcgacagttt tataaaatga 1100 gcatgtacga ggctagtgca catgttccgc ttttgatgat gggaccagga 1150 attaaagccg gcctacaagt atcaaatgtg gtttctcttg tggatattta 1200 ccctaccatg cttgatattg ctggaattcc tctgcctcag aacctgagtg 1250 gatactcttt gttgccgtta tcatcagaaa catttaagaa tgaacataaa 1300 gtcaaaaacc tgcatccacc ctggattctg agtgaattcc atggatgtaa 1350 tgtgaatgcc tccacctaca tgcttcgaac taaccactgg aaatatatag 1400 cctattcgga tggtgcatca atattgcctc aactctttga tctttcctcg 1450 gatccagatg aattaacaaa tgttgctgta aaatttccag aaattactta 1500 ttctttggat cagaagette attecattat aaactaceet aaagtttetg 1550

cttctgtcca ccagtataat aaagagcagt ttatcaagtg gaaacaaagt 1600 ataggacaga attattcaaa cgttatagca aatcttaggt ggcaccaaga 1650 ctggcagaag gaaccaagga agtatgaaaa tgcaattgat cagtggctta 1700 aaacccatat gaatccaaga gcagtttgaa caaaaagttt aaaaatagtg 1750 ttctagagat acatataaat atattacaag atcataatta tgtattttaa 1800 atgaaacagt tttaataatt accaagtttt ggccgggcac agtggctcac 1850 acctgtaatc ccaggacttt gggaggctga ggaaagcaga tcacaaggtc 1900 aagagattga gaccatcctg gccaacatgg tgaaaccctg tctctactaa 1950 aaatacaaaa attagctggg cgcggtggtg cacacctata gtctcagcta 2000 ctcagaggct gaggcaggag gatcgcttga acccgggagg cagcagttgc 2050 agtgagctga gattgcgcca ctgtactcca gcctggcaac agagtgagac 2100 tgtgtcgcaa aaaaataaaa ataaaataat aataattacc aatttttcat 2150 tattttgtaa gaatgtagtg tattttaaga taaaatgcca atgattataa 2200 aatcacatat tttcaaaaat ggttattatt taggcctttg tacaatttct 2250 aacaatttag tggaagtatc aaaaggattg aagcaaatac tgtaacagtt 2300 atgttccttt aaataataga gaatataaaa tattgtaata atatgtatca 2350 taaaatagtt gtatgtgagc atttgatggt gaaaaaaaaa aaaaaaaaa 2400 aaaaaaaaa aaaaaaaaa aaaaaa 2476

<210> 132

<211> 536 <212> PRT

<213> Homo sapiens

<400> 132

Met Leu Leu Trp Val Ser Val Val Ala Ala Leu Ala Leu Ala 1 5 10 15

Val Leu Ala Pro Gly Ala Gly Glu Gln Arg Arg Arg Ala Ala Lys 20 25 30

Ala Pro Asn Val Val Leu Val Val Ser Asp Ser Phe Asp Gly Arg 35 40 45

Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile 50 55 60

Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr 65 70 75

Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu 100 Asp Pro Asn Tyr Thr Thr Trp Met Asp Val Met Glu Arg His Gly Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His His Ser Ile Ser Asn Arg Val Glu Ala Trp Thr Arg Asp Val Ala 140 Phe Leu Leu Arg Gln Glu Gly Arg Pro Met Val Asn Leu Ile Arg 160 Asn Arg Thr Lys Val Arg Val Met Glu Arg Asp Trp Gln Asn Thr 170 Asp Lys Ala Val Asn Trp Leu Arg Lys Glu Ala Ile Asn Tyr Thr 190 Glu Pro Phe Val Ile Tyr Leu Gly Leu Asn Leu Pro His Pro Tyr 210 200 Pro Ser Pro Ser Ser Gly Glu Asn Phe Gly Ser Ser Thr Phe His 215 Thr Ser Leu Tyr Trp Leu Glu Lys Val Ser His Asp Ala Ile Lys Ile Pro Lys Trp Ser Pro Leu Ser Glu Met His Pro Val Asp Tyr Tyr Ser Ser Tyr Thr Lys Asn Cys Thr Gly Arg Phe Thr Lys Lys 260 Glu Ile Lys Asn Ile Arg Ala Phe Tyr Tyr Ala Met Cys Ala Glu 275 Thr Asp Ala Met Leu Gly Glu Ile Ile Leu Ala Leu His Gln Leu 300 290 Asp Leu Leu Gln Lys Thr Ile Val Ile Tyr Ser Ser Asp His Gly Glu Leu Ala Met Glu His Arg Gln Phe Tyr Lys Met Ser Met Tyr 330 320 Glu Ala Ser Ala His Val Pro Leu Leu Met Met Gly Pro Gly Ile 335 Lys Ala Gly Leu Gln Val Ser Asn Val Val Ser Leu Val Asp Ile 360 350 Tyr Pro Thr Met Leu Asp Ile Ala Gly Ile Pro Leu Pro Gln Asn

11 t j H | App | 11

				365					370					375
			_		_	_	_	_		~	<b>G</b> 1.	mla	Dh -	T
Leu	Ser	Gly	Tyr	Ser 380	Leu	Leu	Pro	Leu	385	Ser	GIU	Thr	Pne	390
Asn	Glu	His	Lys	Val 395	Lys	Asn	Leu	His	Pro 400	Pro	Trp	Ile	Leu	Ser 405
Glu	Phe	His	Gly	Cys 410	Asn	Val	Asn	Ala	Ser 415	Thr	Tyr	Met	Leu	Arg 420
Thr	Asn	His	Trp	Lys 425	Tyr	Ile	Ala	Tyr	Ser 430	Asp	Gly	Ala	Ser	Ile 435
Leu	Pro	Gln	Leu	Phe 440	Asp	Leu	Ser	Ser	Asp 445	Pro	Asp	Glu	Leu	Thr 450
Asn	Val	Ala	Val	Lys 455	Phe	Pro	Glu	Ile	Thr 460	Tyr	Ser	Leu	Asp	Gln 465
Lys	Leu	His	Ser	Ile 470	Ile	Asn	Tyr	Pro	Lys 475	Val	Ser	Ala	Ser	Val 480
His	Gln	Tyr	Asn	Lys 485	Glu	Gln	Phe	Ile	Lys 490	Trp	Lys	Gln	Ser	Ile 495
Gly	Gln	Asn	Tyr	Ser 500	Asn	Val	Ile	Ala	Asn 505	Leu	Arg	Trp	His	Gln 510
Asp	Trp	Gln	Lys	Glu 515	Pro	Arg	Lys	Tyr	Glu 520	Asn	Ala	Ile	Asp	Gln 525
Trp	Leu	Lys	Thr	His 530	Met	Asn	Pro	Arg	Ala 535	Val				
<210: <211: <212: <213:	> 14 > DN	75 A	apie	ns										

<400> 133
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tcaaggagca agagcttcag cctgaagaca agggagcagt ccctgaagac 100
gcttctactg agaggtctgc catggcctct cttggcctcc aacttgtggg 150
ctacatccta ggccttctgg ggcttttggg cacactggtt gccatgctgc 200
tccccagctg gaaaacaagt tcttatgtcg gtgccagcat tgtgacagca 250
gttggcttct ccaagggcct ctggatggaa tgtgccacac acagcacagg 300
catcacccag tgtgacatct atagcaccct tctgggcctg cccgctgaca 350
tccaggctgc ccaggccatg atggtgacat ccagtgcaat ctcctccctg 400
gcctgcatta tctctgtggt gggcatgaga tgcacagtct tctgccagga 450

atcccgagcc aaagacagag tggcggtagc aggtggagtc tttttcatcc 500 ttggaggcct cctgggattc attcctgttg cctggaatct tcatgggatc 550 ctacgggact tctactcacc actggtgcct gacagcatga aatttgagat 600 tggagagget ctttacttgg geattattte tteeetgtte teeetgatag 650 ctggaatcat cctctgcttt tcctgctcat cccagagaaa tcgctccaac 700 tactacgatg cctaccaagc ccaacctctt gccacaagga gctctccaag 750 gcctggtcaa cctcccaaag tcaagagtga gttcaattcc tacagcctga 800 cagggtatgt gtgaagaacc aggggccaga gctgggggt ggctgggtct 850 gtgaaaaaca gtggacagca ccccgagggc cacaggtgag ggacactacc 900 actggatcgt gtcagaaggt gctgctgagg atagactgac tttggccatt 950 ggattgagca aaggcagaaa tgggggctag tgtaacagca tgcaggttga 1000 attgccaagg atgctcgcca tgccagcctt tctgttttcc tcaccttgct 1050 geteceetge cetaagtee caaceeteaa ettgaaacee catteeetta 1100 agccaggact cagaggatcc ctttgccctc tggtttacct gggactccat 1150 ccccaaaccc actaatcaca tcccactgac tgaccctctg tgatcaaaga 1200 ccctctctct ggctgaggtt ggctcttagc tcattgctgg ggatgggaag 1250 gagaagcagt ggcttttgtg ggcattgctc taacctactt ctcaagcttc 1300 cctccaaaga aactgattgg ccctggaacc tccatcccac tcttgttatg 1350 actocacagt gtocagacta atttgtgcat gaactgaaat aaaaccatcc 1400 tacggtatcc agggaacaga aagcaggatg caggatggga ggacaggaag 1450 gcagcctggg acatttaaaa aaata 1475

<210> 134

<211> 230

<212> PRT

<213> Homo sapiens

<400> 134

Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu
1 5 10 15

Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp 20 25 30

Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly 35 40 45

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly

1.11111 69

60 50 55 Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile 85 Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala 110 Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro 130 125 Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr 165 160 Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile 175 Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr 195 185 190 Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg 205 Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser 225 215 Leu Thr Gly Tyr Val <210> 135

<210> 135 <211> 610 <212> DNA <213> Homo sapiens

rt | 196 | 1891 | 15

<400> 135
 gcactgctgc tgtcccatca gctgctctga agctccatgg tgcccagaat 50
 cttcgctcct gcttatgtgt cagtctgtct cctcctcttg tgtccaaggg 100
 aagtcatcgc tcccgctggc tcagaaccat ggctgtgcca gccggcaccc 150
 aggtgtggag acaagatcta caaccccttg gagcagtgct gttacaatga 200
 cgccatcgtg tccctgagcg agacccgcca atgtggtccc ccctgcacct 250
 tctggccctg ctttgagctc tgctgtcttg attcctttgg cctcacaaac 300
 gattttgttg tgaagctgaa ggttcagggt gtgaattccc agtgccactc 350

1.0 pmg g 1

atctcccatc tccagtaaat gtgaaagcag aagacgtttt ccctgagaag 400 acatagaaag aaaatcaact ttcactaagg catctcagaa acataggcta 450 aggtaatatg tgtaccagta gagaagcctg aggaatttac aaaatgatgc 500 agctccaagc cattgtatgg cccatgtggg agactgatgg gacatggaga 550 atgacagtag attatcagga aataaataaa gtggttttc caatgtacac 600 acctgtaaaa 610

<210> 136

<211> 119

<212> PRT

<213> Homo sapiens

<400> 136

Met Val Pro Arg Ile Phe Ala Pro Ala Tyr Val Ser Val Cys Leu 1 5 10 15

Leu Leu Cys Pro Arg Glu Val Ile Ala Pro Ala Gly Ser Glu 20 25 30

Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr 35 40 45

Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu 50 55 60

Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys
65 70 75

Phe Glu Leu Cys Cys Leu Asp Ser Phe Gly Leu Thr Asn Asp Phe 80 85 90

Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser 95 100 105

Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Phe Pro 110 115

<210> 137

<211> 771

<212> DNA

<213> Homo sapiens

<400> 137

ctccactgca accaccaga gccatggete eccgaggetg categtaget 50 gtetttgcca ttttetgcat etccaggete etctgeteae acggagecee 100 agtggeecee atgacteett acctgatget gtgecageca cacaagagat 150 gtggggacaa gttetacgae eccetgcage actgttgeta tgatgatgee 200 gtegtgeett tggecaggae ecagaegtgt ggaaactgea cetteagagt 250

ctgctttgag cagtgctgcc cctggacctt catggtgaag ctgataaacc 300 agaactgcga ctcagcccgg acctcggatg acaggctttg tcgcagtgtc 350 agctaatgga acatcagggg aacgatgact cctggattct ccttcctggg 400 tgggcctgga gaaagaggct ggtgttacct gagatctggg atgctgagtg 450 gctgtttggg ggccagagaa acacacactc aactgcccac ttcattctgt 500 gacctgtctg aggcccaccc tgcagctgcc ctgaggaggc ccacaggtcc 550 ccttctagaa ttctggacag catgagatgc gtgtgctgat gggggcccag 600 ggactctgaa ccctcctgat gacccctatg gccaacatca acccggcacc 650 accccaaggc tggctggga acccttcacc cttctgtgag atttccatc 700 atctcaagtt ctcttctatc caggagcaaa gcacaggatc ataataaatt 750 tatgtactt ataaatgaaa a 771

<210> 138

<211> 110

<212> PRT

<213> Homo sapiens.

<400> 138

Met Ala Pro Arg Gly Cys Ile Val Ala Val Phe Ala Ile Phe Cys 1 5 10 15

Ile Ser Arg Leu Leu Cys Ser His Gly Ala Pro Val Ala Pro Met 20 25 30

Thr Pro Tyr Leu Met Leu Cys Gln Pro His Lys Arg Cys Gly Asp 35 40 45

Lys Phe Tyr Asp Pro Leu Gln His Cys Cys Tyr Asp Asp Ala Val $50 \hspace{1cm} 55 \hspace{1cm} 60$ 

Val Pro Leu Ala Arg Thr Gln Thr Cys Gly Asn Cys Thr Phe Arg 65 70 75

Val Cys Phe Glu Gln Cys Cys Pro Trp Thr Phe Met Val Lys Leu .80 85 90

Ile Asn Gln Asn Cys Asp Ser Ala Arg Thr Ser Asp Asp Arg Leu 95 100 105

Cys Arg Ser Val Ser 110

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

gggggcgggt gcctggagca cggcgctggg gccgcccgca gcgctcactc 50 getegeacte agtegeggga ggetteeceg egeeggeege gteeegeeeg 100 ctccccggca ccagaagttc ctctgcgcgt ccgacggcga catgggcgtc 150 cccacggccc tggaggccgg cagctggcgc tggggatccc tgctcttcgc 200 tetetteetg getgegteec taggteeggt ggeageette aaggtegeea 250 cgccgtattc cctgtatgtc tgtcccgagg ggcagaacgt caccctcacc 300 tgcaggetet tgggeeetgt ggacaaaggg cacgatgtga cettetacaa 350 gacgtggtac cgcagctcga ggggcgaggt gcagacctgc tcagagcgcc 400 ggcccatccg caacctcacg ttccaggacc ttcacctgca ccatggaggc 450 caccaggetg ccaacaccag ccacgacctg geteagegee aegggetgga 500 gtcggcctcc gaccaccatg gcaacttctc catcaccatg cgcaacctga 550 ccctgctgga tagcggcctc tactgctgcc tggtggtgga gatcaggcac 600 caccactegg ageacagggt ceatggtgce atggagetge aggtgcagae 650 aggcaaagat gcaccatcca actgtgtggt gtacccatcc tcctcccagg 700 atagtgaaaa catcacggct gcagccctgg ctacgggtgc ctgcatcgta 750 ggaatcctct gcctcccct catcctgctc ctggtctaca agcaaaggca 800 ggcagcctcc aaccgccgtg cccaggagct ggtgcggatg gacagcaaca 850 ttcaagggat tgaaaacccc ggctttgaag cctcaccacc tgcccagggg 900 atacccgagg ccaaagtcag gcaccccctg tcctatgtgg cccagcggca 950 gccttctgag tctgggcggc atctgctttc ggagcccagc accccctgt 1000 ctcctccagg ccccggagac gtcttcttcc catccctgga ccctgtccct 1050 gactetecaa aetttgaggt catetageee agetggggga cagtgggetg 1100 ttgtggctgg gtctggggca ggtgcatttg agccagggct ggctctgtga 1150 gtggcctcct tggcctcggc cctggttccc tccctcctgc tctgggctca 1200 gatactgtga catcccagaa gcccagcccc tcaacccctc tggatgctac 1250 atggggatgc tggacggctc agcccctgtt ccaaggattt tggggtgctg 1300 agattctccc ctagagacct gaaattcacc agctacagat gccaaatgac 1350 ttacatctta agaagtctca gaacgtccag cccttcagca gctctcgttc 1400 tgagacatga gccttgggat gtggcagcat cagtgggaca agatggacac 1450

<210> 140 <211> 311

<212> PRT

<213> Homo sapiens

<400> 140

Met Gly Val Pro Thr Ala Leu Glu Ala Gly Ser Trp Arg Trp Gly
1 10 15

Ser Leu Leu Phe Ala Leu Phe Leu Ala Ala Ser Leu Gly Prò Val

Ala Ala Phe Lys Val Ala Thr Pro Tyr Ser Leu Tyr Val Cys Pro
35 40 45

Glu Gly Gln Asn Val Thr Leu Thr Cys Arg Leu Leu Gly Pro Val 50 55 60

Asp Lys Gly His Asp Val Thr Phe Tyr Lys Thr Trp Tyr Arg Ser 65 70 75

Ser Arg Gly Glu Val Gln Thr Cys Ser Glu Arg Arg Pro Ile Arg 80 85 90

Asn Leu Thr Phe Gln Asp Leu His Leu His His Gly Gly His Gln 95 100 105

Ala Ala Asn Thr Ser His Asp Leu Ala Gln Arg His Gly Leu Glu 110 115 120

Ser Ala Ser Asp His His Gly Asn Phe Ser Ile Thr Met Arg Asn 125 130 135

Leu Thr Leu Leu Asp Ser Gly Leu Tyr Cys Cys Leu Val Val Glu

	140			145		150					
Ile Arg His	His His S	Ser Glu	His Arg	Val His 160	Gly Ala	Met Glu 165					
Leu Gln Val	Gln Thr (	Gly Lys	Asp Ala	Pro Ser 175	Asn Cys	Val Val 180					
Tyr Pro Ser	Ser Ser (	Gln Asp	Ser Glu	Asn Ile 190	Thr Ala	Ala Ala 195					
Leu Ala Thr	Gly Ala (	Cys Ile	Val Gly	Ile Leu 205	Cys Leu	Pro Leu 210					
Ile Leu Leu	Leu Val 1 215	Tyr Lys	Gln Arg	Gln Ala 220	Ala Ser	Asn Arg 225					
Arg Ala Gln	Glu Leu 1 230	Val Arg	Met Asp	Ser Asn 235	Ile Gln	Gly Ile 240					
Glu Asn Pro	Gly Phe 6	Glu Ala	Ser Pro	Pro Ala 250	Gln Gly	Ile Pro 255					
Glu Ala Lys	Val Arg 260	His Pro	Leu Ser	Tyr Val 265	Ala Gln	Arg Gln 270					
Pro Ser Glu	Ser Gly . 275	Arg His	Leu Leu	Ser Glu 280	Pro Ser	Thr Pro 285					
Leu Ser Pro	Pro Gly 290	Pro Gly	Asp Val	Phe Phe 295	Pro Ser	Leu Asp 300					
Pro Val Pro	Asp Ser 305	Pro Asn	Phe Glu	Val Ile 310							
<210> 141 <211> 1732 <212> DNA											

<213> Homo sapiens

<400> 141 cccacgcgtc cgcgcctctc ccttctgctg gaccttcctt cgtctctcca 50 tctctcctc ctttccccgc gttctctttc cacctttctc ttcttcccac 100 cttagacctc ccttcctgcc ctcctttcct gcccaccgct gcttcctggc 150 ccttctccga ccccgctcta gcagcagacc tcctggggtc tgtgggttga 200 tetgtggccc etgtgcctcc gtgtcctttt egteteett eeteecgaet 250 ccgctcccgg accagcggcc tgaccctggg gaaaggatgg ttcccgaggt 300 gagggtcctc tcctccttgc tgggactcgc gctgctctgg ttccccctgg 350 actcccacgc tcgagcccgc ccagacatgt tctgcctttt ccatgggaag 400 agatactccc ccggcgagag ctggcacccc tacttggagc cacaaggcct 450

gatgtactgc ctgcgctgta cctgctcaga gggcgcccat gtgagttgtt 500 accgecteca etgteegeet gteeactgee eccageetgt gaeggageea 550 cagcaatgct gtcccaagtg tgtggaacct cacactccct ctggactccg 600 ggccccacca aagtcctgcc agcacaacgg gaccatgtac caacacggag 650 agatetteag tgeceatgag etgtteeeet eeegeetgee caaccagtgt 700 gtcctctgca gctgcacaga gggccagatc tactgcggcc tcacaacctg 750 ccccgaacca ggctgcccag cacccctccc actgccagac tcctgctgcc 800 aagcctgcaa agatgaggca agtgagcaat cggatgaaga ggacagtgtg 850 cagtcgctcc atggggtgag acatcctcag gatccatgtt ccagtgatgc 900 tgggagaaag agaggcccgg gcaccccagc ccccactggc ctcagcgccc 950 ctctgagctt catccctcgc cacttcagac ccaagggagc aggcagcaca 1000 actgtcaaga tcgtcctgaa ggagaaacat aagaaagcct gtgtgcatgg 1050 cgggaagacg tactcccacg gggaggtgtg gcacccggcc ttccgtgcct 1100 teggeceett geeetgeate etatgeacet gtgaggatgg eegeeaggae 1150 tgccagcgtg tgacctgtcc caccgagtac ccctgccgtc accccgagaa 1200 agtggctggg aagtgctgca agatttgccc agaggacaaa gcagaccctg 1250 gccacagtga gatcagttct accaggtgtc ccaaggcacc gggccgggtc 1300 ctcgtccaca catcggtatc cccaagccca gacaacctgc gtcgctttgc 1350 cctggaacac gaggcctcgg acttggtgga gatctacctc tggaagctgg 1400 taaaagatga ggaaactgag gctcagagag gtgaagtacc tggcccaagg 1450 ccacacagcc agaatcttcc acttgactca gatcaagaaa gtcaggaagc 1500 aagacttcca gaaagaggca cagcacttcc gactgctcgc tggcccccac 1550 gaaggtcact ggaacgtctt cctagcccag accctggagc tgaaggtcac 1600 ggccagtcca gacaaagtga ccaagacata acaaagacct aacagttgca 1650 gatatgagct gtataattgt tgttattata tattaataaa taagaagttg 1700 cattaccctc aaaaaaaaaa aaaaaaaaaa aa 1732

<sup>&</sup>lt;210> 142

<sup>&</sup>lt;211> 451

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 142

Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg 100 Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His 115 Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro 135 130 Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arg 195 190 His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly 205 Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe 225 Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly 255 Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly 285 Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys

	290	295		300
Arg His Pro Glu	Lys Val Ala 305	Gly Lys Cys C 310	cys Lys Ile Cys	Pro 315
Glu Asp Lys Ala	Asp Pro Gly 320	His Ser Glu I 325	le Ser Ser Thr	Arg 330
Cys Pro Lys Ala	Pro Gly Arg 335	Val Leu Val H 340	His Thr Ser Val	Ser 345
Pro Ser Pro Asp	Asn Leu Arg 350	Arg Phe Ala L 355	eu Glu His Glu	Ala 360
Ser Asp Leu Val	Glu Ile Tyr 365	Leu Trp Lys L 370	leu Val Lys Asp	Glu 375
Glu Thr Glu Ala	Gln Arg Gly 380	Glu Val Pro G 385	Gly Pro Arg Pro	His 390
Ser Gln Asn Leu	Pro Leu Asp 395	Ser Asp Gln G 400	Glu Ser Gln Glu	Ala 405
Arg Leu Pro Glu	Arg Gly Thr 410	Ala Leu Pro T 415	Thr Ala Arg Trp	Pro 420
Pro Arg Arg Ser	Leu Glu Arg 425	Leu Pro Ser F 430	Pro Asp Pro Gly	Ala 435
Glu Gly His Gly	Gln Ser Arg 440	Gln Ser Asp G 445	In Asp Ile Thr	Lys 450

Thr

<210> 143 <211> 693 <212> DNA <213> Homo sapiens

<400> 143
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cggggagctc ccgtgggcgc tccgctggct gtgcaggcgg ccatggattc 100
cttgcggaaa atgctgatct cagtcgcaat gctgggcga ggggctggcg 150

tgggctacgc gctcctcgtt atcgtgaccc cgggagagcg gcggaagcag 200

gaaatgctaa aggagatgcc actgcaggac ccaaggagca gggaggaggc 250

ggccaggacc cagcagctat tgctggccac tctgcaggag gcagcgacca 300

cgcaggagaa cgtggcctgg aggaagaact ggatggttgg cggcgaaggc 350

ggcgccagcg ggaggtcacc gtgagaccgg acttgcctcc gtgggcgccg 400

gaccttggct tgggcgcagg aatccgaggc agcctttctc cttcgtggc 450

<210> 144

<211> 93

<212> PRT

<213> Homo sapiens

<400> 144

Met Asp Ser Leu Arg Lys Met Leu Ile Ser Val Ala Met Leu Gly 1 5 10 15

Ala Gly Ala Gly Val Gly Tyr Ala Leu Leu Val Ile Val Thr Pro  $20 \\ 25 \\ 30$ 

Gly Glu Arg Arg Lys Gln Glu Met Leu Lys Glu Met Pro Leu Gln
35 40 45

Asp Pro Arg Ser Arg Glu Glu Ala Ala Arg Thr Gln Gln Leu Leu 50 55 60

Leu Ala Thr Leu Gln Glu Ala Ala Thr Thr Gln Glu Asn Val Ala 65 70 75

Trp Arg Lys Asn Trp Met Val Gly Gly Glu Gly Gly Ala Ser Gly
80 85 90

Arg Ser Pro

<210> 145

<211> 1883

<212> DNA

<213> Homo sapiens

<400> 145

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ttgaggggaa gaggctgact gtacgttcct tctactctgg caccactctc 100
caggctgcca tgggggcccag cacccctctc ctcatcttgt tccttttgtc 150
atggtcggga cccctccaag gacagcagca ccaccttgtg gagtacatgg 200
aacgccgact agctgcttta gaggaacggc tggcccagtg ccaggaccag 250
agtagtcggc atgctgctga gctgcgggac ttcaagaaca agatgctgcc 300
actgctggag gtggcagaga aggagcggga ggcactcaga actgaggccg 350
acaccatctc cgggagagtg gatcgtctgg agcgggaggt agactatctg 400

IITH

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				20					25					30
GLu	Arg	Arg	Leu	Ala 35	Ala	Leu	GLu	GIU	Arg 40	Leu	Ата	GIII	Cys	45
Asp	Gln	Ser	Ser	Arg 50	His	Ala	Ala	Glu	Leu 55	Arg	Asp	Phe	Lys	Asn 60
Lys	Met	Leu	Pro	Leu 65	Leu	Glu	Val	Ala	Glu 70	Lys	Glu	Arg	Glu	Ala 75
Leu	Arg	Thr	Glu	Ala 80	Asp	Thr	Ile	Ser	Gly 85	Arg	Val	Asp	Arg	Leu 90
Glu	Arg	Glu	Val	Asp 95	Tyr	Leu	Glu	Thr	Gln 100	Asn	Pro	Ala	Leu	Pro 105
Суѕ	Val	Glu	Phe	Asp 110	Glu	Lys	Val	Thr	Gly 115	Gly	Pro	Gly	Thr	Lys 120
Gly	Lys	Gly	Arg	Arg 125	Asn	Glu	Lys	Tyr	Asp 130	Met	Val	Thr	Asp	Cys 135
Gly	Tyr	Thr	Ile	Ser 140	Gln	Val	Arg	Ser	Met 145	Lys	Ile	Leu	Lys	Arg 150
Phe	Gly	Gly	Pro	Ala 155	Gly	Leu	Trp	Thr	Lys 160	Asp	Pro	Leu	Gly	Gln 165
Thr	Glu	Lys	Ile	Tyr 170	Val	Leu	Asp	Gly	Thr 175	Gln	Asn	Asp	Thr	Ala 180
Phe	Val	Phe	Pro	Arg 185	Leu	Arg	Asp	Phe	Thr 190	Leu	Ala	Met	Ala	Ala 195
Arg	Lys	Ala	Ser	Arg 200	Val	Arg	Val	Pro	Phe 205	Pro	Trp	Val	Gly	Thr 210
Gly	Gln	Leu	Val	Tyr 215	Gly	Gly	Phe	Leu	Tyr 220	Phe	Ala	Arg	Arg	Pro 225
Pro	Gly	Arg	Pro	Gly 230	Gly	Gly	Gly	Glu	Met 235	Glu	Asn	Thr	Leu	Gln 240
Leu	Ile	Lys	Phe	His 245	Leu	Ala	Asn	Arg	Thr 250	Val	Val	Asp	Ser	Ser 255

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Val Phe Pro Ala Glu Gly Leu Ile Pro Pro Tyr Gly Leu Thr Ala
Asp Thr Tyr Ile Asp Leu Val Ala Asp Glu Glu Gly Leu Trp Ala
Val Tyr Ala Thr Arg Glu Asp Asp Arg His Leu Cys Leu Ala Lys
Leu Asp Pro Gln Thr Leu Asp Thr Glu Gln Gln Trp Asp Thr Pro
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                                    310
Cys Pro Arg Glu Asn Ala Glu Ala Ala Phe Val Ile Cys Gly Thr
                                    325
Leu Tyr Val Val Tyr Asn Thr Arg Pro Ala Ser Arg Ala Arg Ile
                                    340
Gln Cys Ser Phe Asp Ala Ser Gly Thr Leu Thr Pro Glu Arg Ala
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                                    355
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Ala Leu Pro Tyr Phe Pro Arg Tyr Gly Ala His Ala Ser Leu
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                                                         375
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<211> 500

<212> PRT

<213> Homo sapiens

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Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys 35 40 45

Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe 50 55 60

Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe
65 70 75

Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp 80 85 90

Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr 95 100 105

Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser 110 115 120

Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly
125 130 135

Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile 140 145 150

Gln Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala 155 160 165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg 170 175 180

Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu 185 190 195

Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His 200 205 210

Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp 215 220 225

Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu

COLUMN BY

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				230					235					240
Gly	Ile	Leu	Cys	Cys 245	Gly	Leu	Phe	Phe	Gly 250	Ile	Val	Gly	Leu	Lys 255
Ile	Phe	Phe	Ser	Lys 260	Phe	Gln	Trp	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp	Arg	Arg	Lys	His 275	Gly	Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
His	Ala	Val	Glu	Val 290	Thr	Leu	Asp	Pro	Glu 295	Thr	Ala	His	Pro	Lys 300
Leu	Cys	Val	Ser	Asp 305	Leu	Lys	Thr	Val	Thr 310	His	Arg	Lys	Ala	Pro 315
Gln	Glu	Val	Pro	His 320	Ser	Glu	Lys	Arg	Phe 325	Thr	Arg	Lys	Ser	Val 330
Val	Ala	Ser	Gln	Ser 335	Phe	Gln	Ala	Gly	Lys 340	His	Tyr	Trp	Glu	Val 345
Asp	Gly	Gly	His	Asn 350	Lys	Arg	Trp	Arg	Val 355	Gly	Val	Cys	Arg	Asp 360
Asp	Val	Asp	Arg	Arg 365	Lys	Glu	Tyr	Val	Thr 370	Leu	Ser	Pro	Asp	His 375
Gly	Tyr	Trp	Val	Leu 380	Arg	Leu	Asn	Gly	Glu 385	His	Leu	Tyr	Phe	Thr 390
Leu	Asn	Pro	Arg	Phe 395	Ile	Ser	Val	Phe	Pro 400	Arg	Thr	Pro	Pro	Thr 405
Lys	Ile	Gly	Val	Phe 410	Leu	Asp	Tyr	Glu	Cys 415	Gly	Thr	Ile	Ser	Phe 420
Phe	Asn	Ile	Asn	Asp 425	Gln	Ser	Leu	Ile	Tyr 430	Thr	Leu	Thr	Cys	Arg 435
Phe	Glu	Gly	Leu	Leu 440	Arg	Pro	Tyr	Ile	Glu 445	Tyr	Pro	Ser	Tyr	Asn 450
Glu	Gln	Asn	Gly	Thr 455	Pro	Ile	Val	Ile	Cys 460	Pro	Val	Thr	Gln	Glu 465
Ser	Glu	Lys	Glu	Ala 470	Ser	Trp	Gln	Arg	Ala 475		Ala	Ile	Pro	Glu 480
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<222> 1-23
<223> Synthetic construct.
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<220>
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<212> DNA
<213> Homo sapiens
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 aatgaatggc ggagccgagc gcgccatgag gagcctgccg agcctgggcg 150
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 acceptccacc gacccctggc tgcgacttct ccagcccagt ccccggagac 400
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<211> 258

<212> PRT

<213> Homo sapiens

<400> 153

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Val Thr Gly Gly Gly Gly Ala Ala Gly Gln Val Asp Ala Ser Pro 35 40 45

Gly Pro Gly Leu Arg Gly Glu Pro Ser His Pro Phe Pro Arg Ala
50 55 60

Thr Ala Pro Thr Ala Gln Ala Pro Arg Thr Gly Pro Pro Arg Ala 65 70 75

Thr Val His Arg Pro Leu Ala Ala Thr Ser Pro Ala Gln Ser Pro 80 85 90

Glu Thr Thr Pro Leu Trp Ala Thr Ala Gly Pro Ser Ser Thr Thr 95 100 105

Phe Gln Ala Pro Leu Gly Pro Ser Pro Thr Thr Pro Pro Ala Ala 110 115 120

Glu Arg Thr Ser Thr Thr Ser Gln Ala Pro Thr Arg Pro Ala Pro 125 130 135

Thr Thr Leu Ser Thr Thr Thr Gly Pro Ala Pro Thr Thr Pro Val

Ala Thr Thr Val Pro Ala Pro Thr Thr Pro Arg Thr Pro Thr Pro 155 160 165

Asp Leu Pro Ser Ser Ser Asn Ser Ser Val Leu Pro Thr Pro Pro

1/1

	170	175		180								
Ala Thr Glu Ala	Pro Ser Ser 185	Pro Pro Pro 190	Glu Tyr Val	Cys Asn 195								
Cys Ser Val Val	Gly Ser Leu 200	Asn Val Asn 205	Arg Cys Asn	Gln Thr 210								
Thr Gly Gln Cys	Glu Cys Arg 215	Pro Gly Tyr 220	Gln Gly Leu	His Cys 225								
Glu Thr Cys Lys	Glu Gly Phe	Tyr Leu Asn 235	Tyr Thr Ser	Gly Leu 240								
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<213> Homo sapiens

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<213> Homo sapiens

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His Gly Leu Gly Gly Cys Asp Gln Ser Val Met Asp Leu Ile Lys

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Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu 105
Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile 120
Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu 135
Leu Tyr Ser Leu Thr Glu Thr Ala Ser Gln Glu Ala Met Gly Leu 150
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<210> 159

<211> 1665

<212> DNA

<213> Homo sapiens

<400> 159

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<210> 160

<211> 463

<212> PRT

<213> Homo sapiens

<400> 160

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Val Gln Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr 35 40 45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr
50 55 60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala 65 70 75

Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg 80 85

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser 95 100 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg

				110					115					120
Met	Glu	Lys	Gly	Ser 125	Ile	Lys	Trp	Asn	Tyr 130	Lys	His	His	Arg	Leu 135
Ser	Val	Asn	Val	Thr 140	Ala	Leu	Thr	His	Arg 145	Pro	Asn	Ile	Leu	Ile 150
Pro	Gly	Thr	Leu	Glu 155	Ser	Gly	Cys	Pro	Gln 160	Asn	Leu	Thr	Cys	Ser 165
Val	Pro	Trp	Ala	Cys 170	Glu	Gln	Gly	Thr	Pro 175	Pro	Met	Ile	Ser	Trp 180
Ile	Gly	Thr	Ser	Val 185	Ser	Pro	Leu	Asp	Pro 190	Ser	Thr	Thr	Arg	Ser 195
Ser	Val	Leu	Thr	Leu 200	Ile	Pro	Gln	Pro	Gln 205	Asp	His	Gly	Thr	Ser 210
Leu	Thr	Cys	Gln	Val 215	Thr	Phe	Pro	Gly	Ala 220	Ser	Val	Thr	Thr	Asn 225
Lys	Thr	Val	His	Leu 230	Asn	Val	Ser	Tyr	Pro 235	Pro	Gln	Asn	Leu	Thr 240
Met	Thr	Val	Phe	Gln 245	Gly	Asp	Gly	Thr	Val 250	Ser	Thr	Val	Leu	Gly 255
Asn	Gly	Ser	Ser	Leu 260	Ser	Leu	Pro	Glu	Gly 265	Gln	Ser	Leu	Arg	Leu 270
Val	Cys	Ala	Val	Asp 275	Ala	Val	Asp	Ser	Asn 280	Pro	Pro	Ala	Arg	Leu 285
Ser	Leu	Ser	Trp	Arg 290	Gly	Leu	Thr	Leu	Cys 295	Pro	Ser	Gln	Pro	Ser 300
Asn	Pro	Gly	Val	Leu 305	Glu	Leu	Pro	Trp	Val 310	His	Leu	Arg	Asp	Ala 315
Ala	Glu	Phe	Thr	Cys 320	Arg	Ala	Gln	Asn	Pro 325	Leu	Gly	Ser	Gln	Gln 330
Val	Tyr	Leu	Asn	Val 335	Ser	Leu	Gln	Ser	Lys 340	Ala	Thr	Ser	Gly	Val 345
Thr	Gln	Gly	Val	Val 350	Gly	Gly	Ala	Gly	Ala 355	Thr	Ala	Leu	Val	Phe 360
Leu	Ser	Phe	Суз	Val 365	Ile	Phe	Val	Val	Val 370	Arg	Ser	Cys	Arg	Lys 375
Lys	Ser	Ala	Arg	Pro 380	Ala	Ala	Gly	Val	Gly 385	Asp	Thr	Gly	Ile	Glu 390
Asp	Ala	Asn	Ala	Val 395	Arg	Gly	Ser	Ala	Ser 400	Gln	Gly	Pro	Leu	Thr 405

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Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala 410 415 420
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Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser 425 430 435

Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu 440 445 450

Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg
455 460

<210> 161

<211> 739

<212> DNA

<213> Homo sapiens

<400> 161

<210> 162

<211> 170

<212> PRT

<213> Homo sapiens

<400> 162

Met Lys Thr Leu Phe Leu Gly Val Thr Leu Gly Leu Ala Ala Ala 1 5 10 15

Leu Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr

Val Lys Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg Pro Arg Lys Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly

Lys Leu Glu Ala Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile

Gln Lys Lys Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr

Ser Ala Tyr Gly Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu Pro

Arg Arg Asp His Tyr Ile Phe Tyr Cys Lys Asp Gln His His Gly

Gly Leu Leu His Met Gly Lys Leu Val Gly Arg Asn Ser Asp Thr

Asn Arg Glu Ala Leu Glu Glu Phe Lys Lys Leu Val Gln Arg Lys

Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro Leu Gln Thr Gly Ser 165

Cys Val Pro Glu His 170

<210> 163

<211> 22

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-22

<223> Synthetic construct.

<400> 163

ggagatgaag accetgttce tg 22

<210> 164

<211> 26

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-26

<223> Synthetic construct.

<400> 164

ggagatgaag accetgttcc tgggtg 26

<400> 169

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<210> 165
<211> 21
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-21
<223> Synthetic construct.
<400> 165
 gtcctccgga aagtccttat c 21
<210> 166
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 166
 gcctagtgtt cgggaacgca gcttc 25
<210> 167
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 167
 cagggacctg gtacgtgaag gccatggtgg tcgataagga ctttccggag 50
<210> 168
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 168
 ctgtccttca ccctggagga ggaggatatc acagggacct ggtac 45
<210> 169
<211> 1204
<212> DNA
<213> Homo sapiens
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gttccgcaga tgcagaggtt gaggtggctg cgggactgga agtcatcggg 50
cagaggtete acageageea aggaacetgg ggeeegetee tececetee 100
aggccatgag gattetgeag ttaateetge ttgetetgge aacagggett 150
gtagggggag agaccaggat catcaagggg ttcgagtgca agcctcactc 200
ccagccctqq caggcagccc tqttcgagaa qacqcggcta ctctgtgggg 250
cgacgeteat egececaga tggeteetga cageageeca etgeeteaag 300
ccccgctaca tagttcacct ggggcagcac aacctccaga aggaggaggg 350
ctqtqaqcaq acccqqacaq ccactqagtc cttcccccac cccggcttca 400
acaacagcct ccccaacaaa gaccaccgca atgacatcat gctggtgaag 450
atggcatcgc cagtctccat cacctgggct gtgcgacccc tcaccctctc 500
ctcacgctgt gtcactgctg gcaccagctg cctcatttcc ggctggggca 550
gcacgtccag ccccagtta cgcctgcctc acaccttgcg atgcgccaac 600
atcaccatca ttgagcacca gaagtgtgag aacgcctacc ccggcaacat 650
cacagacacc atggtgtgtg ccagcgtgca ggaagggggc aaggactcct 700
qccaqqqtga ctccqggggc cctctggtct gtaaccagtc tcttcaaggc 750
attatctcct ggggccagga tccgtgtgcg atcacccgaa agcctggtgt 800
ctacacqaaa qtctqcaaat atgtggactg gatccaggag acgatgaaga 850
acaattagac tggacccacc caccacagcc catcaccctc catttccact 900
tqqtqtttqq ttcctqttca ctctqttaat aagaaaccct aagccaagac 950
cctctacgaa cattctttgg gcctcctgga ctacaggaga tgctgtcact 1000
taataatcaa cctggggttc gaaatcagtg agacctggat tcaaattctg 1050
ccttgaaata ttgtgactct gggaatgaca acacctggtt tgttctctgt 1100
tgtatcccca gccccaaaga cagctcctgg ccatatatca aggtttcaat 1150
aaaa 1204
<210> 170
<211> 250
<212> PRT
<213> Homo sapiens
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<400> 170

Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu

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Val Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro
His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu
Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala
Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His
Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr
Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys
                                     100
Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val
                                     115
                 110
Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys
                                     130
Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr
                 140
Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn
                                     160
Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly
                 170
                                     175
Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
                                     190
Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
                 200
                                     205
Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
                                     220
Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
                 230
                                     235
Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
<210> 171
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<sup>&</sup>lt;211> 25

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Artificial

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> Artificial Sequence

<sup>&</sup>lt;222> 1-25

<sup>&</sup>lt;223> Synthetic construct.

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<400> 171
 ggctgcggga ctggaagtca tcggg 25
<210> 172
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 172
 ctccaggcca tgaggattct gcag 24
<210> 173
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 173
 cctctggtct gtaaccag 18
<210> 174
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 174
 tctgtgatgt tgccggggta ggcg 24
<210> 175
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 175
 cgtgtagaca ccaggctttc gggtg 25
<210> 176
<211> 18
<212> DNA
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 176
cccttgatga tcctggtc 18
<210> 177
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 177
 aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 50
<210> 178
<211> 43
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-43
<223> Synthetic construct.
<400> 178
 gagagaccag gatcatcaag gggttcgagt gcaagcctca ctc 43
<210> 179
<211> 907
<212> DNA
<213> Homo sapiens
<400> 179
 gagcagtgtt ctgctggagc cgatgccaaa aaccatgcat ttcttattca 50
 gattcattgt tttcttttat ctgtggggcc tttttactgc tcagagacaa 100
 aagaaagagg agagcaccga agaagtgaaa atagaagttt tgcatcgtcc 150
 agaaaactgc tctaagacaa gcaagaaggg agacctacta aatgcccatt 200
 atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250
 caaaatgaag gccaccccaa atggtttgtt cttggtgttg ggcaagtcat 300
 aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcgaa 350
 aagtagttat acccccttca tttgcatacg gaaaggaagg ctatgcagaa 400
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11 11 1

<210> 180 <211> 222 <212> PRT

<213> Homo sapiens

<400> 180
Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe
1 5 10 15

Tyr Leu Trp Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu 20 25 30

Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn 35 40 45

Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr
50 55 60

Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg 65 70 75

Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly 80 85 90

Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro  $95 \hspace{1cm} 100 \hspace{1cm} 105 \hspace{1cm}$ 

Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly 110 115 120

Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu 125 130 135

Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser 140 145 150

<212> DNA

<213> Artificial

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Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu
Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
                                     175
Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu
                 185
Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser
                                     205
                 200
Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu
<210> 181
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-22
<223> Synthetic construct.
<400> 181
 gtgttctgct ggagccgatg cc 22
<210> 182
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 182
 gacatggaca atgacagg 18
<210> 183
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 183
 cctttcagga tgtaggag 18
<210> 184
<211> 18
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<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 184
gatgtctgcc accccaag 18
<210> 185
<211> 27
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-27
<223> Synthetic construct.
<400> 185
 gcatcctgat atgacttgtc acgtggc 27
<210> 186
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 186
 tacaagaggg aagaggagtt gcac 24
<210> 187
<211> 52
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-52
<223> Synthetic construct.
<400> 187
 gcccattatg acggctacct ggctaaagac ggctcgaaat tctactgcag 50
 cc 52
<210> 188
<211> 573
<212> DNA
<213> Homo sapiens
<400> 188
 cagaaatgca gggaccattg cttcttccag gcctctgctt tctgctgagc 50
 ctctttggag ctgtgactca gaaaaccaaa acttcctgtg ctaagtgccc 100
```

THE MINUTE STATE OF STATE OF

```
atacttctgg atctgggcag aaactattca cattccectt ggagacatgt 200
aacgccaggc atggtggctc gcgcctgtaa tcccagttct ttgggaagcc 250
aaggcaggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300
atagtgaaac cccgtgtcta ctaaaaatac aaaaatcagc cgggcgtggt 350
ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400
cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450
ctccagcatg gatgacagag caagactccg tctcaaaaag aaaagatagt 500
ttcttgttc atttcgcgac tgccctcta gtgtttcctg ggatcccctc 550
ccaaataaag tacttatatt ctc 573
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<210> 189 <211> 74 <212> PRT

<213> Homo sapiens

<400> 189

Met Gln Gly Pro Leu Leu Leu Pro Gly Leu Cys Phe Leu Leu Ser 1 5 10

Leu Phe Gly Ala Val Thr Gln Lys Thr Lys Thr Ser Cys Ala Lys 20 25 30

Cys Pro Pro Asn Ala Ser Cys Val Asn Asn Thr His Cys Thr Cys
45

Asn His Gly Tyr Thr Ser Gly Ser Gly Gln Lys Leu Phe Thr Phe
50 55 60

Pro Leu Glu Thr Cys Asn Ala Arg His Gly Gly Ser Arg Leu 65 70

<210> 190

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 190

agggaccatt gcttcttcca ggcc 24

<210> 191

<211> 24

<212> DNA

<213> Artificial

14 Mil H

111

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<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 191
 cgttacatgt ctccaagggg aatg 24
<210> 192
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 192
 cctgtgctaa gtgcccccca aatgcttcct gtgtcaataa cactcactgc 50
<210> 193
<211> 1091
<212> DNA
<213> Homo sapiens
<400> 193
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 ggtggggggc acagggaaag ggtgacctct gagattcccc ttttccccca 100
 gactttggaa gtgacccacc atggggctca gcatcttttt gctcctgtgt 150
 gttcttgggc tcagccaggc agccacaccg aagattttca atggcactga 200
 gtgtgggcgt aactcacagc cgtggcaggt ggggctgttt gagggcacca 250
 gcctgcgctg cgggggtgtc cttattgacc acaggtgggt cctcacagcg 300
 gctcactgca gcggcagcag gtactgggtg cgcctggggg aacacagcct 350
 cagccagctc gactggaccg agcagatccg gcacagcggc ttctctgtga 400
 cccatcccgg ctacctggga gcctcgacga gccacgagca cgacctccgg 450
 ctgctgcggc tgcgcctgcc cgtccgcgta accagcagcg ttcaacccct 500
 geceetgeee aatgactgtg caaccgetgg caccgagtge cacgteteag 550
 gctggggcat caccaaccac ccacggaacc cattcccgga tctgctccag 600
 tgcctcaacc tctccatcgt ctcccatgcc acctgccatg gtgtgtatcc 650
 cgggagaatc acgagcaaca tggtgtgtgc aggcggcgtc ccggggcagg 700
 atgectgeca gggtgattet gggggeeece tggtgtgtgg gggagteett 750
 caaggtctgg tgtcctgggg gtctgtgggg ccctgtggac aagatggcat 800
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<210> 194

<211> 248

<212> PRT

<213> Homo sapiens

<400> 194

Met Gly Leu Ser Ile Phe Leu Leu Cys Val Leu Gly Leu Ser 1 5 10 15

Gln Ala Ala Thr Pro Lys Ile Phe Asn Gly Thr Glu Cys Gly Arg 20 25 30

Asn Ser Gln Pro Trp Gln Val Gly Leu Phe Glu Gly Thr Ser Leu
35 40 45

Arg Cys Gly Gly Val Leu Ile Asp His Arg Trp Val Leu Thr Ala
50 55 60

Ala His Cys Ser Gly Ser Arg Tyr Trp Val Arg Leu Gly Glu His
65 70 75

Ser Leu Ser Gln Leu Asp Trp Thr Glu Gln Ile Arg His Ser Gly 80 85 90

Phe Ser Val Thr His Pro Gly Tyr Leu Gly Ala Ser Thr Ser His 95 100 105

Glu His Asp Leu Arg Leu Leu Arg Leu Arg Leu Pro Val Arg Val 110 115 120

Thr Ser Ser Val Gln Pro Leu Pro Leu Pro Asn Asp Cys Ala Thr 125 130 135

Ala Gly Thr Glu Cys His Val Ser Gly Trp Gly Ile Thr Asn His 140 145 150

Pro Arg Asn Pro Phe Pro Asp Leu Leu Gln Cys Leu Asn Leu Ser 155 160 165

Ile Val Ser His Ala Thr Cys His Gly Val Tyr Pro Gly Arg Ile 170 175 180

Thr Ser Asn Met Val Cys Ala Gly Gly Val Pro Gly Gln Asp Ala 185 190 195

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Gly Gly Val Leu

Gln Gly Leu Val Ser Trp Gly Ser Val Gly Pro Cys Gly Gln Asp 225

Gly Ile Pro Gly Val Tyr Thr Tyr Ile Cys Lys Tyr Val Asp Trp 230

Ile Arg Met Ile Met Arg Asn Asn

Ile Arg Met Ile Met Arg Asn Asn 245

<210> 195 <211> 1485 <212> DNA

<213> Homo sapiens

<400> 195 gcggccacac gcagctagcc ggagcccgga ccaggcgcct gtgcctcctc 50 ctcgtccctc gccgcgtccg cgaagcctgg agccggcggg agccccgcgc 100 tcgccatgtc gggcgagctc agcaacaggt tccaaggagg gaaggcgttc 150 ggcttgctca aagcccggca ggagaggagg ctggccgaga tcaaccggga 200 gtttctgtgt gaccagaagt acagtgatga agagaacctt ccagaaaagc 250 tcacagcctt caaagagaag tacatggagt ttgacctgaa caatgaaggc 300 gagattgacc tgatgtcttt aaagaggatg atggagaagc ttggtgtccc 350 caagacccac ctggagatga agaagatgat ctcagaggtg acaggagggg 400 tcagtgacac tatatcctac cgagactttg tgaacatgat gctggggaaa 450 cggtcggctg tcctcaagtt agtcatgatg tttgaaggaa aagccaacga 500 gagcagcccc aagccagttg gcccccctcc agagagagac attgctagcc 550 tgccctgagg accccgcctg gactccccag ccttcccacc ccatacctcc 600 ctcccgatct tgctgccctt cttgacacac tgtgatctct ctctctctca 650 tttgtttggt cattgagggt ttgtttgtgt tttcatcaat gtctttgtaa 700 agcacaaatt atctgcctta aaggggctct gggtcgggga atcctgagcc 750 ttgggtcccc tccctcttt cttccctcct tccccgctcc ctgtgcagaa 800 gggctgatat caaaccaaaa actagagggg gcagggccag ggcagggagg 850 cttccagcct gtgttcccct cacttggagg aaccagcact ctccatcctt 900 tcagaaagtc tccaagccaa gttcaggctc actgacctgg ctctgacgag 950 gaccccaggc cactctgaga agaccttgga gtagggacaa ggctgcaggg 1000 cctctttcgg gtttccttgg acagtgccat ggttccagtg ctctggtgtc 1050 acccaggaca cagccactcg gggccccgct gccccagctg atccccactc 1100 attccacacc tettetcate ctcagtgatg tgaaggtggg aaggaaagga 1150 gcttggcatt gggagccctt caagaaggta ccagaaggaa ccctccagtc 1200 ctgctctctg gccacacctg tgcaggcagc tgagaggcag cgtgcagccc 1250 tactgtccct tactggggca gcagagggct tcggaggcag aagtgaggcc 1300 tggggtttgg ggggaaaggt cagctcagtg ctgttccacc ttttagggag 1350 gatactgagg ggaccaggat gggagaatga ggagtaaaat gctcacggca 1400 aagtcagcag cactggtaag ccaagactga gaaatacaag gttgcttgtc 1450 tgaccccaat ctgcttgaaa aaaaaaaaa aaaaa 1485

<210> 196

<211> 150

<212> PRT

<213> Homo sapiens

<400> 196

Met Ser Gly Glu Leu Ser Asn Arg Phe Gln Gly Gly Lys Ala Phe 1 5 10 15

Gly Leu Leu Lys Ala Arg Gln Glu Arg Arg Leu Ala Glu Ile Asn 20 25 30

Arg Glu Phe Leu Cys Asp Gln Lys Tyr Ser Asp Glu Glu Asn Leu
35 40 45

Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp 50 55 60

Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met 65 70 75

Met Glu Lys Leu Gly Val Pro Lys Thr His Leu Glu Met Lys Lys 80 85 90

Met Ile Ser Glu Val Thr Gly Gly Val Ser Asp Thr Ile Ser Tyr 95 100 105

Arg Asp Phe Val Asn Met Met Leu Gly Lys Arg Ser Ala Val Leu 110 115 120

Lys Leu Val Met Met Phe Glu Gly Lys Ala Asn Glu Ser Ser Pro 125 130 135

Lys Pro Val Gly Pro Pro Pro Glu Arg Asp Ile Ala Ser Leu Pro 140 145 150

<210> 197

<211> 4842

<212> DNA

<213> Homo sapiens

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Asp Cys His Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro 50 55 60

Arg Asn Ala Glu Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg
65 70 75

Ile Thr Lys Met Asp Phe Ala Gly Leu Lys Asn Leu Arg Val Leu 80 85 90

His Leu Glu Asp Asn Gln Val Ser Val Ile Glu Arg Gly Ala Phe 95 100 105

Gln Asp Leu Lys Gln Leu Glu Arg Leu Arg Leu Asn Lys 110 115 120

Leu Gln Val Leu Pro Glu Leu Leu Phe Gln Ser Thr Pro Lys Leu 125 130 135

Thr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Gly Ile Pro Arg
140 145 150

Lys Ala Phe Arg Gly Ile Thr Asp Val Lys Asn Leu Gln Leu Asp 155 160 165

Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu 170 Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Ile Ser Arg 190 185 Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg Thr Leu Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala Trp 215 Leu Ser Asp Trp Leu Arg Gln Arg Arg Thr Val Gly Gln Phe Thr 235 230 Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp 250 Val Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro 265 Pro Ser Cys Asn Ala Asn Ser Ile Ser Cys Pro Ser Pro Cys Thr Cys Ser Asn Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu 295 290 Ile Pro Ala Asn Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu 310 Gln Asn Ser Ile Lys Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr 325 Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys Asn Gln Ile Ser Asp 340 Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser Leu Thr Ser Leu 350 355 Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys Gly Leu Phe 370 Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Asn Ala Asn Lys 380 385 Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn Leu 395 400 Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys 415 Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala 430 Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser

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Ser Pro Arg	Arg Le		Asn	Lys	Arg	Ile 475	Ser	Gln	Ile	Lys	Ser 480
Lys Lys Phe	Arg Cy:		Gly	Ser	Glu	Asp 490	Tyr	Arg	Ser	Arg	Phe 495
Ser Ser Glu	Cys Pho		Asp	Leu	Val	Cys 505	Pro	Glu	Lys	Cys	Arg 510
Cys Glu Gly	Thr Ile		Asp	Cys	Ser	Asn 520	Gln	Lys	Leu	Val	Arg 525
Ile Pro Ser	His Le		Glu	Tyr	Val	Thr 535	Asp	Leu	Arg	Leu	Asn 540
Asp Asn Glu	val Se		Leu	Glu	Ala	Thr 550	Gly	Ile	Phe	Lys	Lys 555
Leu Pro Asr	Leu Ar	_	Ile	Asn	Leu	Ser 565	Asn	Asn	Lys	Ile	Lys 570
Glu Val Arç	g Glu Gl 57		Phe	Asp	Gly	Ala 580	Ala	Ser	Val	Gln	Glu 585
Leu Met Leu	Thr Gl 59		Gln	Leu	Glu	Thr 595	Val	His	Gly	Arg	Val 600
Phe Arg Gly	Leu Se 60		Leu	Lys	Thr	Leu 610	Met	Leu	Arg	Ser	Asn 615
Leu Ile Se	Cys Va 62		Asn	Asp	Thr	Phe 625	Ala	Gly	Leu	Ser	Ser 630
Val Arg Le	ı Leu Se 63		Tyr	Asp	Asn	Arg 640	Ile	Thr	Thr	Ile	Thr 645
Pro Gly Ala	a Phe Th 65		Leu	Val	Ser	Leu 655	Ser	Thr	Ile	Asn	Leu 660
Leu Ser Ası	n Pro Ph 66	e Asn 5	Суз	Asn	Cys	His 670	Leu	Ala	Trp	Leu	Gly 675
Lys Trp Let	ı Arg Ly 68		Arg	Ile	Val	Ser 685	Gly	Asn	Pro	Arg	Cys 690
Gln Lys Pro	o Phe Ph 69		Lys	Glu	Ile	Pro 700	Ile	Gln	Asp	Val	Ala 705
Ile Gln Asp	Phe Th 71		Asp	Gly	Asn	Glu 715	Glu	Ser	Ser	Cys	Gln 720
Leu Ser Pro	Arg Cy 72		Glu	Gln	Cys	Thr 730	Суз	Met	Glu	Thr	Val 735
Val Arg Cy	s Ser As 74		: Gly	Leu	Arg	Ala 745	Leu	Pro	Arg	Gly	Met 750

Pro Lys Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr Ala Val Pro Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile 775 Asp Leu Ser Asn Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg 805 800 Leu Arg Cys Ile Pro Val His Ala Phe Asn Gly Leu Arg Ser Leu 820 Arg Val Leu Thr Leu His Gly Asn Asp Ile Ser Ser Val Pro Glu 835 Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser His Leu Ala Leu Gly 850 Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu Thr Thr Pro Thr 890 His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn Ile Val Ala Lys Cys Asn Ala Cys Leu Ser Ser Pro Cys Lys Asn Asn Gly Thr Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro Tyr 935 Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile 950 Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser 975 965 His Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly 980 Gln Arg Cys Glu Ile Asn Pro Asp Asp Cys Glu Asp Asn Asp Cys 995 1005 Glu Asn Asn Ala Thr Cys Val Asp Gly Ile Asn Asn Tyr Val Cys 1010 Ile Cys Pro Pro Asn Tyr Thr Gly Glu Leu Cys Asp Glu Val Ile 1035 1025 Asp His Cys Val Pro Glu Leu Asn Leu Cys Gln His Glu Ala Lys

			1040				1045				1050
Cys	Ile	Pro	Leu Asp 1055	Lys	Gly	Phe	Ser Cys 1060	Glu	Cys	Val	Pro Gly 1065
Tyr	Ser	Gly	Lys Leu 1070	Cys	Glu	Thr	Asp Asn 1075	Asp	Asp	Cys	Val Ala 1080
His	Lys	Cys	Arg His 1085	Gly	Ala	Gln	Cys Val 1090	Asp	Thr	Ile	Asn Gly 1095
Tyr	Thr	Cys	Thr Cys 1100	Pro	Gln	Gly	Phe Ser 1105	Gly	Pro	Phe	Cys Glu 1110
His	Pro	Pro	Pro Met 1115	Val	Leu	Leu	Gln Thr 1120	Ser	Pro	Cys	Asp Gln 1125
Tyr	Glu	Cys	Gln Asn 1130	Gly	Ala	Gln	Cys Ile 1135	Val	Val	Gln	Gln Glu 1140
Pro	Thr	Cys	Arg Cys 1145	Pro	Pro	Gly	Phe Ala 1150	Gly	Pro	Arg	Cys Glu 1155
Lys	Leu	Ile	Thr Val 1160	Asn	Phe	Val	Gly Lys 1165	Asp	Ser	Tyr	Val Glu 1170
Leu	Ala	Ser	Ala Lys 1175	Val	Arg	Pro	Gln Ala 1180	Asn	Ile	Ser	Leu Gln 1185
Val	Ala	Thr	Asp Lys 1190	Asp	Asn	Gly	Ile Leu 1195	Leu	Tyr	Lys	Gly Asp 1200
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Val	Tyr	Asp	Ser Leu 1220	Ser	Ser	Pro	Pro Thr 1225	Thr	Val	Tyr	Ser Val 1230
Glu	Thr	Val	Asn Asp 1235	Gly	Gln	Phe	His Ser 1240	Val	Glu	Leu	Val Thr 1245
Leu	Asn	Gln	Thr Leu 1250	Asn	Leu	Val	Val Asp 1255	Lys	Gly	Thr	Pro Lys 1260
Ser	Leu	Gly	Lys Leu 1265	Gln	Lys	Gln	Pro Ala 1270	Val	Gly	Ile	Asn Ser 1275
Pro	Leu	Tyr	Leu Gly 1280	Gly	Ile	Pro	Thr Ser 1285	Thr	Gly	Leu	Ser Ala 1290
Leu	Arg	Gln	Gly Thr 1295	Asp	Arg	Pro	Leu Gly 1300	Gly	Phe	His	Gly Cys 1305
Ile	His	Glu	Val Arg 1310	Ile	Asn	Asn	Glu Leu 1315	Gln	Asp	Phe	Lys Ala 1320
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 Lys Cys Val Ala Thr Gly Thr Ser Tyr Met Cys Lys Cys Ala Glu
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 Gly Tyr Gly Gly Asp Leu Cys Asp Asn Lys Asn Asp Ser Ala Asn
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 Ala Cys Ser Ala Phe Lys Cys His His Gly Gln Cys His Ile Ser
                                     1420
                1415
 Asp Gln Gly Glu Pro Tyr Cys Leu Cys Gln Pro Gly Phe Ser Gly
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                1430
 Glu His Cys Gln Gln Glu Asn Pro Cys Leu Gly Gln Val Val Arg
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 Glu Val Ile Arg Arg Gln Lys Gly Tyr Ala Ser Cys Ala Thr Ala
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                                     1465
 Ser Lys Val Pro Ile Met Glu Cys Arg Gly Gly Cys Gly Pro Gln
                                     1480
                 1475
 Cys Cys Gln Pro Thr Arg Ser Lys Arg Arg Lys Tyr Val Phe Gln
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Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr
Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe
 Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu
Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp
                                                          105
Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr
 Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu Gly
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<223> Synthetic construct.

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 ctttttacct tggtgtctgc ctgtatccca gtgttcaggc tggctagacg 200
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17 (6)1 (1

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<400> 210 Met Pro Leu Lys Leu Val His Gly Ser Pro Leu Val Phe Gly Glu Lys Phe Lys Leu Phe Thr Leu Val Ser Ala Cys Ile Pro Val Phe Arg Leu Ala Arg Arg Lys Lys Ile Leu Phe Tyr Cys His Phe Pro Asp Leu Leu Thr Lys Arg Asp Ser Phe Leu Lys Arg Leu Tyr Arg Ala Pro Ile Asp Trp Ile Glu Glu Tyr Thr Thr Gly Met Ala Asp Cys Ile Leu Val Asn Ser Gln Phe Thr Ala Ala Val Phe Lys Glu Thr Phe Lys Ser Leu Ser His Ile Asp Pro Asp Val Leu Tyr Pro Ser Leu Asn Val Thr Ser Phe Asp Ser Val Val Pro 110 Glu Lys Leu Asp Asp Leu Val Pro Lys Gly Lys Lys Phe Leu Leu 135 125 Leu Ser Ile Asn Arg Tyr Glu Arg Lys Lys Asn Leu Thr Leu Ala Leu Glu Ala Leu Val Gln Leu Arg Gly Arg Leu Thr Ser Gln Asp 155 165 Trp Glu Arg Val His Leu Ile Val Ala Gly Gly Tyr Asp Glu Arg 170 Val Leu Glu Asn Val Glu His Tyr Gln Glu Leu Lys Lys Met Val 195 185 Gln Gln Ser Asp Leu Gly Gln Tyr Val Thr Phe Leu Arg Ser Phe Ser Asp Lys Gln Lys Ile Ser Leu Leu His Ser Cys Thr Cys Val 215 225 Leu Tyr Thr Pro Ser Asn Glu His Phe Gly Ile Val Pro Leu Glu 230 Ala Met Tyr Met Gln Cys Pro Val Ile Ala Val Asn Ser Gly Gly 255 245 Pro Leu Glu Ser Ile Asp His Ser Val Thr Gly Phe Leu Cys Glu 260

Pro Asp Pro Val His Phe Ser Glu Ala Ile Glu Lys Phe Ile Arg 275 280 285

Glu Pro Ser Leu Lys Ala Thr Met Gly Leu Ala Gly Arg Ala Arg 290 295 300

Val Lys Glu Lys Phe Ser Pro Glu Ala Phe Thr Glu Gln Leu Tyr 305 310 315

Arg Tyr Val Thr Lys Leu Leu Val 320

<210> 211

<211> 1554

<212> DNA

<213> Homo sapiens

<400> 211

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<210> 212

<211> 462

<212> PRT

<213> Homo sapiens

<400> 212

Met Leu Asp Phe Ala Ile Phe Ala Val Thr Phe Leu Leu Ala Leu 1 5 10

Val Gly Ala Val Leu Tyr Leu Tyr Pro Ala Ser Arg Gln Ala Ala  $20 \hspace{1cm} 25 \hspace{1cm} 30$ 

Gly Ile Pro Gly Ile Thr Pro Thr Glu Glu Lys Asp Gly Asn Leu 35 40 45

Pro Asp Ile Val Asn Ser Gly Ser Leu His Glu Phe Leu Val Asn 50 55 60

Leu His Glu Arg Tyr Gly Pro Val Val Ser Phe Trp Phe Gly Arg
65 70 75

Arg Leu Val Val Ser Leu Gly Thr Val Asp Val Leu Lys Gln His 80 85 90

Ile Asn Pro Asn Lys Thr Ser Asp Pro Phe Glu Thr Met Leu Lys 95 100 105

Ser Leu Leu Arg Tyr Gln Ser Gly Gly Gly Ser Val Ser Glu Asn 110 115 120

His Met Arg Lys Lys Leu Tyr Glu Asn Gly Val Thr Asp Ser Leu 125 130 135

Lys Ser Asn Phe Ala Leu Leu Leu Lys Leu Ser Glu Glu Leu Leu

				140					145					150
Asp	Lys	Trp	Leu	Ser 155	Tyr	Pro	Glu	Thr	Gln 160	His	Val	Pro	Leu	Ser 165
Gln	His	Met	Leu	Gly 170	Phe	Ala	Met	Lys	Ser 175	Val	Thr	Gln	Met	Va] 180
Met	Gly	Ser	Thr	Phe 185	Glu	Asp	Asp	Gln	Glu 190	Val	Ile	Arg	Phe	Glr 195
Lys	Asn	His	Gly	Thr 200	Val	Trp	Ser	Glu	Ile 205	Gly	Lys	Gly	Phe	Let 210
Asp	Gly	Ser	Leu	Asp 215	Lys	Asn	Met	Thr	Arg 220	Lys	Lys	Gln	Tyr	Glu 225
qsA	Ala	Leu	Met	Gln 230	Leu	Glu	Ser	Val	Leu 235	Arg	Asn	Ile	Ile	Lys 240
Glu	Arg	Lys	Gly	Arg 245	Asn	Phe	Ser	Gln	His 250	Ile	Phe	Ile	Asp	Se: 255
Leu	Val	Gln	Gly	Asn 260	Leu	Asn	Asp	Gln	Gln 265	Ile	Leu	Glu	Asp	Se: 270
Met	Ile	Phe	Ser	Leu 275	Ala	Ser	Cys	Ile	Ile 280	Thr	Ala	Lys	Leu	Cys 285
Thr	Trp	Ala	Ile	Cys 290	Phe	Leu	Thr	Thr	Ser 295	Glu	Glu	Val	Gln	Lys 300
Lys	Leu	Tyr	Glu	Glu 305	Ile	Asn	Gln	Val	Phe 310	Gly	Asn	Gly	Pro	Val 315
Thr	Pro	Glu	Lys	Ile 320	Glu	Gln	Leu	Arg	Tyr 325	Cys	Gln	His	Val	Let 330
Cys	Glu	Thr	Val	Arg 335	Thr	Ala	Lys	Leu	Thr 340	Pro	Val	Ser	Ala	Glr 345
Leu	Gln	Asp	Ile	Glu 350	Gly	Lys	Ile	Asp	Arg 355	Phe	Ile	Ile	Pro	Arg 360
Glu	Thr	Leu	Val	Leu 365	Tyr	Ala	Leu	Gly	Val 370	Val	Leu	Gln	Asp	Pro 375
Asn	Thr	Trp	Pro	Ser 380	Pro	His	Lys	Phe	Asp 385	Pro	Asp	Arg	Phe	Asp 390
Asp	Glu	Leu	Val	Met 395	Lys	Thr	Phe	Ser	Ser 400	Leu	Gly	Phe	Ser	Gly 405
Thr	Gln	Glu	Cys	Pro 410	Glu	Leu	Arg	Phe	Ala 415	Tyr	Met	Val	Thr	Th: 420
Val	Leu	Leu	Ser	Val 425	Leu	Val	Lys	Arg	Leu 430	His	Leu	Leu	Ser	Va. 435

Glu Gly Gln Val Ile Glu Thr Lys Tyr Glu Leu Val Thr Ser Ser 440 445 450

<210> 213

<211> 759

<212> DNA

<213> Homo sapiens

<400> 213

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<210> 214

<211> 140

<212> PRT

<213> Homo sapiens

<400> 214

Met Gly Arg Val Ser Gly Leu Val Pro Ser Arg Phe Leu Thr Leu
1 5 10 15

Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp 20 25 30

Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu
35 40 45

110 1000 1

Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr 60

Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val 75

Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His 90

Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp 105

Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu 120

Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu 135

Lys Lys Lys Pro Phe 140

<210> 215

<211> 697

<212> DNA

<213> Homo sapiens

<210> 216

<211> 196

<212> PRT

<213> Homo sapiens

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Ser	Pro	Ile	Val	Pro 35	Arg	Asn	Glu	Trp	Lys 40	Ala	Leu	Ala	Ser	Glu 45
Cys	Ala	Gln	His	Leu 50	Ser	Leu	Pro	Leu	Arg 55	Tyr	Val	Val	Val	Ser 60
His	Thr	Ala	Gly	Ser 65	Ser	Cys	Asn	Thr	Pro 70	Ala	Ser	Cys	Gln	Gln 75
Gln	Ala	Arg	Asn	Val 80	Gln	His	Tyr	His	Met 85	Lys	Thr	Leu	Gly	Trp 90
Cys	Asp	Val	Gly	Tyr 95	Asn	Phe	Leu	Ile	Gly 100	Glu	Asp	Gly	Leu	Val 105
Tyr	Glu	Gly	Arg	Gly 110	Trp	Asn	Phe	Thr	Gly 115	Ala	His	Ser	Gly	His 120
Leu	Trp	Asn	Pro	Met 125	Ser	Ile	Gly	Ile	Ser 130	Phe	Met	Gly	Asn	Tyr 135
Met	Asp	Arg	Val	Pro 140	Thr	Pro	Gln	Ala	Ile 145	Arg	Ala	Ala	Gln	Gly 150
Leu	Leu	Ala	Cys	Gly 155	Val	Ala	Gln	Gly	Ala 160	Leu	Arg	Ser	Asn	Tyr 165
Val	Leu	Lys	Gly	His 170	Arg	Asp	Val	Gln	Arg 175	Thr	Leu	Ser	Pro	Gly 180
Asn	Gln	Leu	Tyr	His 185	Leu	Ile	Gln	Asn	Trp 190	Pro	His	Tyr	Arg	Ser 195

Pro

<210> 217

<211> 1871

<212> DNA

<213> Homo sapiens

<400> 217
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 gaagatgcaa ctgactcgct gctgcttcgt gttcctggtg cagggtagcc 100
 tctatctggt catctgtggc caggatgatg gtcctccgg ctcagaggac 150
 cctgagcgtg atgaccacga gggccagccc cggccccggg tgcctcggaa 200

gcggggccac atctcaccta agtcccgccc catggccaat tccactctcc 250 tagggctgct ggccccgcct ggggaggctt ggggcattct tgggcagccc 300 cccaaccgcc cgaaccacag cccccaccc tcagccaagg tgaagaaaat 350 ctttggctgg ggcgacttct actccaacat caagacggtg gccctgaacc 400 tgctcgtcac agggaagatt gtggaccatg gcaatgggac cttcagcgtc 450 cacttccaac acaatgccac aggccaggga aacatctcca tcagcctcgt 500 gcccccagt aaagctgtag agttccacca ggaacagcag atcttcatcg 550 aagccaaggc ctccaaaatc ttcaactgcc ggatggagtg ggagaaggta 600 gaacggggcc gccggacctc gctttgcacc cacgacccag ccaagatctg 650 ctcccgagac cacgctcaga gctcagccac ctggagctgc tcccagccct 700 tcaaagtcgt ctgtgtctac atcgccttct acagcacgga ctatcggctg 750 gtccagaagg tgtgcccaga ttacaactac catagtgata ccccctacta 800 ggacaggcct gcccatgcag gagaccatct ggacaccggg cagggaaggg 900 gttgggcctc aggcagggag gggggtggag acgaggagat gccaagtggg 950 gccagggcca agtctcaagt ggcagagaaa gggtcccaag tgctggtccc 1000 aacctgaagc tgtggagtga ctagatcaca ggagcactgg aggaggagtg 1050 ggctctctgt gcagcctcac agggctttgc cacggagcca cagagagatg 1100 ctgggtcccc gaggcctgtg ggcaggccga tcagtgtggc cccagatcaa 1150 gtcatgggag gaagctaagc ccttggttct tgccatcctg aggaaagata 1200 gcaacaggga gggggagatt tcatcagtgt ggacagcctg tcaacttagg 1250 gccagaggag ctctccagcc ctgcctagtg ggcgccctga gccccttgtc 1350 gtgtgctgag catggcatga ggctgaagtg gcaaccctgg ggtctttgat 1400 gtcttgacag attgaccatc tgtctccagc caggccaccc ctttccaaaa 1450 ttccctcttc tgccagtact ccccctgtac cacccattgc tgatggcaca 1500 cccatcctta agctaagaca ggacgattgt ggtcctccca cactaaggcc 1550 acageceate egegtgetgt gtgteeetet tecaececaa eeeetgetgg 1600 ctcctctggg agcatccatg tcccggagag gggtccctca acagtcagcc 1650

tcacctgtca gaccggggtt ctcccggatc tggatggcgc cgccctctca 1700 gcagcgggca cgggtggggc ggggccgggc cgcagagcat gtgctggatc 1750 tgttctgtgt gtctgtctgt gggtggggg aggggaggga agtcttgtga 1800 aaccgctgat tgctgacttt tgtgtgaaga atcgtgttct tggagcagga 1850 aataaagctt gcccggggc a 1871

<210> 218

<211> 252

<212> PRT

<213> Homo sapiens

<400> 218

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Leu Tyr Leu Val Ile Cys Gly Gln Asp Asp Gly Pro Pro Gly Ser 20 25 30

Glu Asp Pro Glu Arg Asp Asp His Glu Gly Gln Pro Arg Pro Arg
35 40 45

Val Pro Arg Lys Arg Gly His Ile Ser Pro Lys Ser Arg Pro Met
50 55 60

Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala 65 70 75

Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro 80 85 90

Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe 95 100 105

Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly 110 115

Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln 125 130 135

His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro 140 145 150

Pro Ser Lys Ala Val Glu Phe His Gln Glu Gln Gln Ile Phe Ile 155 160 165

Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu 170 175 180

Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro 185 190 195

Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp 200 205 210

FOR PROOF 1 10

Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe 215 220 225

Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr 230 235 240

Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly 245 250

<210> 219

<211> 2065

<212> DNA

<213> Homo sapiens

<400> 219

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<210> 220

<211> 201

<212> PRT

<213> Homo sapiens

<400> 220

Met Gly Ser Gly Arg Arg Ala Leu Ser Ala Val Pro Ala Val Leu 1 5 10 15

Leu Val Leu Thr Leu Pro Gly Leu Pro Val Trp Ala Gln Asn Asp  $20 \\ 25 \\ 30$ 

Thr Glu Pro Ile Val Leu Glu Gly Lys Cys Leu Val Val Cys Asp 35 40 45

Ser Asn Pro Ala Thr Asp Ser Lys Gly Ser Ser Ser Pro Leu
50 55 60

<211> 40

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Gly Ile Ser Val Arg Ala Ala Asn Ser Lys Val Ala Phe Ser Ala
Val Arg Ser Thr Asn His Glu Pro Ser Glu Met Ser Asn Lys Thr
Arg Ile Ile Tyr Phe Asp Gln Ile Leu Val Asn Val Gly Asn Phe
Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr
                 110
Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile
                                     130
                 125
Gln Val Asn Leu Met Leu Asn Gly Lys Pro Val Ile Ser Ala Phe
Ala Gly Asp Lys Asp Val Thr Arg Glu Ala Ala Thr Asn Gly Val
Leu Leu Tyr Leu Asp Lys Glu Asp Lys Val Tyr Leu Lys Leu Glu
                 170
                                     175
Lys Gly Asn Leu Val Gly Gly Trp Gln Tyr Ser Thr Phe Ser Gly
                                                          195
                 185
Phe Leu Val Phe Pro Leu
                 200
<210> 221
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 221
acggctcacc atgggctccg 20
<210> 222
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 222
aggaagagga gcccttggag tccg 24
<210> 223
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19 100 11 1

<212> PRT

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<212> DNA
<213> Artificial
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<221> Artificial Sequence
<222> 1-40
<223> Synthetic construct.
<400> 223
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<210> 224
<211> 902
<212> DNA
<213> Homo sapiens
<400> 224
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 tttcgtccct tgtttggttc atggcaagag tcattattga caacaaagat 200
ggaccaacac agaaatatct gctgatcttt ggagcgtttg tctctgtcta 250
 tatccaagaa atgttccgat ttgcatatta taaactctta aaaaaagcca 300
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## <213> Homo sapiens

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Arg	Ile	Ile	Phe	Leu 35	Ile	Ala	Gly	Ala	Phe 40	Phe	Trp	Leu	Val	Ser 45
Leu	Leu	Ile	Ser	Ser 50	Leu	Val	Trp	Phe	Met 55	Ala	Arg	Val	Ile	Ile 60
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Ala	Phe	Val	Ser	Val 80	Tyr	Ile	Gln	Glu	Met 85	Phe	Arg	Phe	Ala	Tyr 90
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Asp	Ser	Pro	Gln	Phe 155	Phe	Leu	Tyr	Ser	Ala 160	Phe	Met	Thr	Leu	Val 165
Ile	Ile	Leu	Leu	His 170	Val	Phe	Trp	Gly	Ile 175	Val	Phe	Phe	Asp	Gly 180
Cys	Glu	Lys	Lys	Lys 185	Trp	Gly	Ile	Leu	Leu 190	Ile	Val	Leu	Leu	Thr 195
His	Leu	Leu	Val	Ser 200		Gln	Thr	Phe	Ile 205		Ser	Tyr	Tyr	Gly 210
Ile	Asn	Leu	Ala	Ser 215	Ala	Phe	Ile	Ile	Leu 220	Val	Leu	Met	Gly	Thr 225
Trp	Ala	Phe	Leu	Ala 230	Ala	Gly	Gly	Ser	Cys 235	Arg	Ser	Leu	Lys	Leu 240
Cys	Leu	Leu	Cys	Gln 245	Asp	Lys	Asn	Phe	Leu 250	Leu	Tyr	Asn	Gln	Arg 255
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Ser Arg

<210> 226

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<sup>&</sup>lt;210> 227

<sup>&</sup>lt;211> 832

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 227

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Ser	Phe	Glu	Asn	Val 365	Ser	Gly	Ser	Thr	Asp 370	Gly	Leu	Val	Asp	Ser 375
Ala	Gly	Thr	Gly	Asp 380	Leu	Ser	Tyr	Gly	Tyr 385	Gln	Gly	Arg	Ser	Phe 390
Glu	Pro	Val	Gly	Thr 395	Arg	Pro	Arg	Val	Asp 400	Ser	Met	Ser	Ser	Val 405
Glu	Glu	Asp	Asp	Tyr 410	Asp	Thr	Leu	Thr	Asp 415	Ile	Asp	Ser	Asp	Lys 420
Asn	Val	Ile	Arg	Thr 425	Lys	Gln	Tyr	Leu	Tyr 430	Val	Ala	Asp	Leu	Ala 435
Arg	Lys	Asp	Lys	Arg 440	Val	Leu	Arg	Lys	Lys 445	Tyr	Gln	Ile	Tyr	Phe 450
Trp	Asn	Ile	Ala	Thr 455	Ile	Ala	Val	Phe	Tyr 460	Ala	Leu	Pro	Val	Val 465
Gln	Leu	Val	Ile	Thr 470	Tyr	Gln	Thr	Val	Val 475	Asn	Val	Thr	Gly	Asn 480
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Asn	His	Asn	Arg	Ala 530	Leu	Leu	Arg	Asn	Asp 535	Leu	Суѕ	Ala	Leu	Glu 540
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Ala	Leu	Met	Met	Glu 560		Leu	Leu	Ser	Ala 565	Cys	Tyr	His	Val	Cys 570
Pro	Asn	Tyr	Thr	Asn 575		Gln	Phe	Asp	Thr 580	Ser	Phe	Met	Tyr	Met 585
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Leu Leu Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu
Asp Ser Gly Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp
Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val
Leu Leu Val Met Gly Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr
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Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu Leu Ala
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Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr Ile Ile
                                    730
Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu
Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe
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Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser
Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asp Asp
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His Asp Ile Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser
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<211> 2848

<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;210> 229

<sup>&</sup>lt;211> 807

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 229

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Ser	Gly	Lys	Ala	Thr 65	Glu	Gly	Pro	Phe	Ala 70	Met	Asp	Pro	Asp	Ser 75
Gly	Phe	Leu	Leu	Val 80	Thr	Arg	Ala	Leu	Asp 85	Arg	Glu	Glu	Gln	Ala 90
Glu	Tyr	Gln	Leu	Gln 95	Val	Thr	Leu	Glu	Met 100	Gln	Asp	Gly	His	Val 105
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Asp	Gln	Val	Pro	His 125	Phe	Ser	Gln	Ala	Ile 130	Tyr	Arg	Ala	Arg	Leu 135
Ser	Arg	Gly	Thr	Arg 140	Pro	Gly	Ile	Pro	Phe 145	Leu	Phe	Leu	Glu	Ala 150
Ser	Asp	Arg	Asp	Glu 155	Pro	Gly	Thr	Ala	Asn 160	Ser	Asp	Leu	Arg	Phe 165
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Gln	Leu	Glu	Pro	Arg 185	Leu	Gly	Ala	Leu	Ala 190	Leu	Ser	Pro	Lys	Gly 195
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Val	Gln	Val	Lys	Asp 215	Met	Gly	Asp	Gln	Ala 220	Ser	Gly	His	Gln	Ala 225
Thr	Ala	Thr	Val	Glu 230	Val	Ser	Ile	Ile	Glu 235	Ser	Thr	Trp	Val	Ser 240
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Glu	Tyr	Leu	Leu	Gln 305		Arg	Ala	Gln	Asn 310	Ser	His	Gly	Glu	Asp 315

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Asp	Asn	Val	Pro	Ile 335	Cys	Pro	Pro	Arg	Asp 340	Pro	Thr	Val	Ser	Ile 345
Pro	Glu	Leu	Ser	Pro 350	Pro	Gly	Thr	Glu	Val 355	Thr	Arg	Leu	Ser	Ala 360
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Pro	Ala	Phe	Arg	Leu 485	Met	Asp	Phe	Ala	Ile 490	Glu	Arg	Gly	Asp	Thr 495
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Arg	Leu	Arg	Leu	Cys 515	Lys	Asn	Leu	Ser	Tyr 520	Glu	Ala	Ala	Pro	Ser 525
His	Glu	Val	Val	Val 530	Val	Val	Gln	Ser	Val 535	Ala	Lys	Leu	Val	Gly 540
Pro	Gly	Pro	Gly	Pro 545	Gly	Ala	Thr	Ala	Thr 550	Val	Thr	Val	Leu	Val 555
Glu	Arg	Val	Met	Pro 560		Pro	Lys	Leu	Asp 565	Gln	Glu	Ser	Tyr	Glu 570
Ala	Ser	Val	Pro	Ile 575		Ala	Pro	Ala	Gly 580	Ser	Phe	Leu	Leu	Thr 585
Ile	Gln	Pro	Ser	Asp 590		Ile	Ser	Arg	Thr 595	Leu	Arg	Phe	Ser	Leu 600
Val	Asn	Asp	Ser	Glu	Gly	Trp	Leu	Cys	Ile	Glu	Lys	Phe	Ser	Gly

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Glu	Val	His	Thr	Ala 620	Gln	Ser	Leu	Gln	Gly 625	Ala	Gln	Pro	Gly	Asp 630
Thr	Tyr	Thr	Val	Leu 635	Val	Glu	Ala	Gln	Asp 640	Thr	Ala	Leu	Thr	Leu 645
Ala	Pro	Val	Pro	Ser 650	Gln	Tyr	Leu	Cys	Thr 655	Pro	Arg	Gln	Asp	His 660
Gly	Leu	Ile	Val	Ser 665	Gly	Pro	Ser	Lys	Asp 670	Pro	Asp	Leu	Ala	Ser 675
Gly	His	Gly	Pro	Tyr 680	Ser	Phe	Thr	Leu	Gly 685	Pro	Asn	Pro	Thr	Val 690
Gln	Arg	Asp	Trp	Arg 695	Leu	Gln	Thr	Leu	Asn 700	Gly	Ser	His	Ala	Tyr 705
Leu	Thr	Leu	Ala	Leu 710	His	Trp	Val	Glu	Pro 715	Arg	Glu	His	Ile	Ile 720
Pro	Val	Val	Val	Ser 725	His	Asn	Ala	Gln	Met 730	Trp	Gln	Leu	Leu	Val 735
Arg	Val	Ile	Val	Cys 740	Arg	Cys	Asn	Val	Glu 745	Gly	Gln	Cys	Met	Arg 750
Lys	Val	Gly	Arg	Met 755	Lys	Gly	Met	Pro	Thr 760	Lys	Leu	Ser	Ala	Val 765
Gly	Ile	Leu	Val	Gly 770	Thr	Leu	Val	Ala	Ile 775	Gly	Ile	Phe	Leu	Ile 780
Leu	Ile	Phe	Thr	His 785	Trp	Thr	Met	Ser	Arg 790	Lys	Lys	Asp	Pro	Asp 795
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17 (6) 11

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<212> PRT

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Val Arg Asn Gly Asp Glu Ile Ser Lys Leu Ser Gln Leu Val Asn 35 40 45

Ser Asn Asn Leu Lys Leu Asn Phe Trp Lys Ser Pro Ser Ser Phe 50 55 60

Asn Arg Pro Val Asp Val Leu Val Pro Ser Val Ser Leu Gln Ala 65 70 75

Phe Lys Ser Phe Leu Arg Ser Gln Gly Leu Glu Tyr Ala Val Thr 80 85 90

Ile Glu Asp Leu Gln Ala Leu Leu Asp Asn Glu Asp Asp Glu Met
95 100 105

Gln His Asn Glu Gly Gln Glu Arg Ser Ser Asn Asn Phe Asn Tyr 110 115 120

Gly Ala Tyr His Ser Leu Glu Ala Ile Tyr His Glu Met Asp Asn 125 130 135

His Ser Phe Glu Asn Arg Pro Met Tyr Val Leu Lys Phe Ser Thr 155 160 165

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Gly Lys Gly Val Arg Arg Pro Ala Val Trp Leu Asn Ala Gly Ile
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His Ser Arg Glu Trp Ile Ser Gln Ala Thr Ala Ile Trp Thr Ala
                                    190
Arg Lys Ile Val Ser Asp Tyr Gln Arg Asp Pro Ala Ile Thr Ser
Ile Leu Glu Lys Met Asp Ile Phe Leu Leu Pro Val Ala Asn Pro
                                    220
                215
Asp Gly Tyr Val Tyr Thr Gln Thr Gln Asn Arg Leu Trp Arg Lys
                                    235
                230
Thr Arg Ser Arg Asn Pro Gly Ser Ser Cys Ile Gly Ala Asp Pro
Asn Arg Asn Trp Asn Ala Ser Phe Ala Gly Lys Gly Ala Ser Asp
                                    265
Asn Pro Cys Ser Glu Val Tyr His Gly Pro His Ala Asn Ser Glu
                                    280
Val Glu Val Lys Ser Val Val Asp Phe Ile Gln Lys His Gly Asn
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Phe Lys Gly Phe Ile Asp Leu His Ser Tyr Ser Gln Leu Leu Met
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Tyr Pro Tyr Gly Tyr Ser Val Lys Lys Ala Pro Asp Ala Glu Glu
                                                         330
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Leu Asp Lys Val Ala Arg Leu Ala Ala Lys Ala Leu Ala Ser Val
                335
Ser Gly Thr Glu Tyr Gln Val Gly Pro Thr Cys Thr Thr Val Tyr
                                                         360
                350
Pro Ala Ser Gly Ser Ser Ile Asp Trp Ala Tyr Asp Asn Gly Ile
                                    370
                365
Lys Phe Ala Phe Thr Phe Glu Leu Arg Asp Thr Gly Thr Tyr Gly
                380
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Phe Leu Leu Pro Ala Asn Gln Ile Ile Pro Thr Ala Glu Glu Thr
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<213> Homo sapiens

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Ser Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val 50 55 60

Leu Glu Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val 65 70 75

Ser Thr Ser Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr 80 85 90

Lys Thr Gln Ile Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr 95 100 105

Pro Glu Ser Ala Ile His Gln Gly Phe Gln His Leu Val His Ser 110 115 120

Leu Thr Val Pro Ser Lys Asp Leu Thr Leu Lys Met Gly Ser Ala 125 130 135

Leu Phe Val Lys Lys Glu Leu Gln Leu Gln Ala Asn Phe Leu Gly 140 145

Asn Val Lys Arg Leu Tyr Glu Ala Glu Val Phe Ser Thr Asp Phe 155 160 165

Ser Asn Pro Ser Ile Ala Gln Ala Arg Ile Asn Ser His Val Lys 170 175 180

Lys Lys Thr Gln Gly Lys Val Val Asp Ile Ile Gln Gly Leu Asp 185 190 195

Leu Leu Thr Ala Met Val Leu Val Asn His Ile Phe Phe Lys Ala

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Lys Trp Glu Ly	rs Pro Phe 215	His Leu	Glu Ty 22		Lys Asn	Phe 225
Pro Phe Leu Va	al Gly Glu 230	Gln Val	Thr Va 23		Pro Met	Met 240
His Gln Lys G	u Gln Phe 245	Ala Phe	Gly Va 25		Glu Leu	Asn 255
Cys Phe Val Le	eu Gln Met 260	Asp Tyr	Lys Gl 26		Val Ala	Phe 270
Phe Val Leu Pi	o Ser Lys 275	Gly Lys	Met Ar 28		Glu Gln	Ala 285
Leu Ser Ala A	g Thr Leu 290	Ile Lys	Trp Se		Leu Gln	Lys 300
Arg Trp Ile G	Lu Val Phe 305	Ile Pro	Arg Ph		Ser Ala	Ser 315
Tyr Asn Leu G	lu Thr Ile 320	Leu Pro	Lys Me	t Gly Ile	Gln Asn	Ala 330
Phe Asp Lys A:	sn Ala Asp 335	Phe Ser	Gly Il		Arg Asp	Ser 345
Leu Gln Val So	er Lys Ala 350	Thr His	Lys Al	a Val Leu 55	Asp Val	Ser 360
Glu Glu Gly T	nr Glu Ala 365	Thr Ala	Ala Th	er Thr Thr	Lys Phe	Ile 375
Val Arg Ser L	ys Asp Gly 380	Pro Ser	Tyr Ph		Ser Phe	Asn 390
Arg Thr Phe L	eu Met Met 395	Ile Thr	Asn Ly		Asp Gly	Ile 405
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50 55 60

Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val 65 70 75

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala

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Thr	Asn	Ser	Glu	Ser 395	Ser	Thr	Thr	Ser	Ser 400	Gly	Val	Ser	Thr	Ala 405
Thr	Asn	Ser	Glu	Ser 410	Ser	Thr	Thr	Ser	Ser 415	Gly	Ala	Ser	Thr	Ala 420
Thr	Asn	Ser	Asp	Ser 425	Ser	Thr	Thr	Ser	Ser 430	Glu	Ala	Ser	Thr	Ala 435
Thr	Asn	Ser	Glu	Ser 440	Ser	Thr	Val	Ser	Ser 445	Gly	Ile	Ser	Thr	Val 450
Thr	Asn	Ser	Glu	Ser 455	Ser	Thr	Thr	Ser	Ser 460	Gly	Ala	Asn	Thr	Ala 465
Thr	Asn	Ser	Gly	Ser 470	Ser	Val	Thr	Ser	Ala 475	Gly	Ser	Gly	Thr	Ala 480
Ala	Leu	Thr	Gly	Met 485	His	Thr	Thr	Ser	His 490	Ser	Ala	Ser	Thr	Ala 495
Val	Ser	Glu	Ala	Lys 500	Pro	Gly	Gly	Ser	Leu 505	Val	Pro	Trp	Glu	Ile 510
Phe	Leu	Ile	Thr	Leu 515	Val	Ser	Val	Val	Ala 520	Ala	Val	Gly	Leu	Phe 525
Ala	Gly	Leu	Phe	Phe 530	Суз	Val	Arg	Asn	Ser 535	Leu	Ser	Leu	Arg	Asn 540
Thr	Phe	Asn	Thr	Ala 545	Val	Tyr	His	Pro	His 550	Gly	Leu	Asn	His	Gly 555
Leu	Gly	Pro	Gly	Pro 560	Gly	Gly	Asn	His	Gly 565	Ala	Pro	His	Arg	Pro 570
Arg	Trp	Ser	Pro	Asn 575	Trp	Phe	Trp	Arg	Arg 580	Pro	Val	Ser	Ser	Ile 585
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17 **4**1 B

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Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser
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Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser
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Ser Ser His Gln Gly Gly Ala Thr Thr Pro Leu Ala Ser Gly
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er erein apn

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Pro Arg Ile Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu 50 55 60

Arg Phe Glu Ala Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu 65 70 75

Ser Arg Asp Gly Arg Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu

118 188

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Ser	Phe	Lys	Gly	Lys 125	Asp	Pro	Gln	Arg	Asp 130	Cys	Gln	Asn	Tyr	Ile 135
Lys	Ile	Leu	Leu	Pro 140	Leu	Ser	Gly	Ser	His 145	Leu	Phe	Thr	Cys	Gly 150
Thr	Ala	Ala	Phe	Ser 155	Pro	Met	Cys	Thr	Tyr 160	Ile	Asn	Met	Glu	Asn 165
Phe	Thr	Leu	Ala	Arg 170	Asp	Glu	Lys	Gly	Asn 175	Val	Leu	Leu	Glu	Asp 180
Gly	Lys	Gly	Arg	Cys 185	Pro	Phe	Asp	Pro	Asn 190	Phe	Lys	Ser	Thr	Ala 195
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Gln	Gly	Asn	Asp	Pro 215	Ala	Ile	Ser	Arg	Ser 220	Gln	Ser	Leu	Arg	Pro 225
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Ser	Gln	Trp	His	Arg 350		Thr	Thr	Glu	Gly 355	Ser	Ala	Val	. Cys	Val 360
Phe	Thr	Met	Lys	Asp 365		. Glr	a Arg	y Val	Phe 370	Ser	Gly	Leu	Tyr	Lys 375

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Val Ile	e Ile	Ser	Thr 695	Ser	Arg	Val	Ser	Ala 700	Pro	Ala	Gly	Gly	Lys 705
Ala Se	Trp	Gly	Ala 710	Asp	Arg	Ser	Tyr	Trp 715	Lys	Glu	Phe	Leu	Val 720
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Gly Gl	ı Cys	Ala	Ser 755	Val	His	Pro	Lys	Thr 760	Cys	Pro	Val	Val	Leu 765
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Gln As	p Ser	Phe	Val 815	Glu	Val	Ser	Pro	Val 820	Cys	Pro	Arg	Pro	Arg 825
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<210> 260

<211> 802

<212> PRT

<213> Homo sapiens

<400> 260

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Ala Ser Glu Leu Lys Arg Ala Gly Pro Arg Arg Arg Ala Ser Pro
35 40 45

Glu Gly Cys Arg Ser Gly Gln Ala Ala Ser Gln Ala Gly Gly
50 55 60

Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser 65 70 75

Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly 80 85 90

Val Met Thr Ala Gln Lys Tyr Leu Gln Thr Arg Ala Val Ala Ala 95 100 105

Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe 110 115 120

Ser Ser Glu Gly Ser Asp Thr Ser Val Pro Ile Pro Val Val Pro 125 130 135

Leu Arg Gly Val Asp Asp Ser Tyr Pro Pro Gln Lys Lys Ser Phe 140 145 150

Met Met Leu Lys Tyr Met His Asp His Tyr Leu Asp Lys Tyr Glu 155 160 165

Trp Phe Met Arg Ala Asp Asp Asp Val Tyr Ile Lys Gly Asp Arg 170 175 180

Leu Glu Asn Phe Leu Arg Ser Leu Asn Ser Ser Glu Pro Leu Phe 185 190 195

Leu Gly Gln Thr Gly Leu Gly Thr Thr Glu Glu Met Gly Lys Leu 200 205 210

Ala Leu Glu Pro Gly Glu Asn Phe Cys Met Gly Gly Pro Gly Val 215 220 225

Ile Met Ser Arg Glu Val Leu Arg Arg Met Val Pro His Ile Gly 230 235 240

Lys Cys Leu Arg Glu Met Tyr Thr Thr His Glu Asp Val Glu Val Gly Arg Cys Val Arg Arg Phe Ala Gly Val Gln Cys Val Trp Ser 260 265 Tyr Glu Met Arg Gln Leu Phe Tyr Glu Asn Tyr Glu Gln Asn Lys Lys Gly Tyr Ile Arg Asp Leu His Asn Ser Lys Ile His Gln Ala Ile Thr Leu His Pro Asn Lys Asn Pro Pro Tyr Gln Tyr Arg Leu His Ser Tyr Met Leu Ser Arg Lys Ile Ser Glu Leu Arg His Arg Thr Ile Gln Leu His Arg Glu Ile Val Leu Met Ser Lys Tyr Ser Asn Thr Glu Ile His Lys Glu Asp Leu Gln Leu Gly Ile Pro Pro Ser Phe Met Arg Phe Gln Pro Arg Gln Arg Glu Glu Ile Leu Glu Trp Glu Phe Leu Thr Gly Lys Tyr Leu Tyr Ser Ala Val Asp Gly Gln Pro Pro Arg Arg Gly Met Asp Ser Ala Gln Arg Glu Ala Leu Asp Asp Ile Val Met Gln Val Met Glu Met Ile Asn Ala Asn Ala 410 Lys Thr Arg Gly Arg Ile Ile Asp Phe Lys Glu Ile Gln Tyr Gly Tyr Arg Arg Val Asn Pro Met Tyr Gly Ala Glu Tyr Ile Leu Asp Leu Leu Leu Tyr Lys Lys His Lys Gly Lys Lys Met Thr Val 455 Pro Val Arg Arg His Ala Tyr Leu Gln Gln Thr Phe Ser Lys Ile 470 475 Gln Phe Val Glu His Glu Glu Leu Asp Ala Gln Glu Leu Ala Lys 485 Arg Ile Asn Gln Glu Ser Gly Ser Leu Ser Phe Leu Ser Asn Ser Leu Lys Lys Leu Val Pro Phe Gln Leu Pro Gly Ser Lys Ser Glu 525 515 His Lys Glu Pro Lys Asp Lys Ile Asn Ile Leu Ile Pro Leu

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Ser	Gly	Arg	Phe	Asp 545	Met	Phe	Val	Arg	Phe 550	Met	Gly	Asn	Phe	Glu 555
Lys	Thr	Cys	Leu	Ile 560	Pro	Asn	Gln	Asn	Val 565	Lys	Leu	Val	Val	Leu 570
Leu	Phe	Asn	Ser	Asp 575	Ser	Asn	Pro	Asp	Lys 580	Ala	Lys	Gln	Val	Glu 585
Leu	Met	Arg	Asp	Tyr 590	Arg	Ile	Lys	Tyr	Pro 595	Lys	Ala	Asp	Met	Gln 600
Ile	Leu	Pro	Val	Ser 605	Gly	Glu	Phe	Ser	Arg 610	Ala	Leu	Ala	Leu	Glu 615
Val	Gly	Ser	Ser	Gln 620	Phe	Asn	Asn	Glu	Ser 625	Leu	Leu	Phe	Phe	Cys 630
Asp	Val	Asp	Leu	Val 635	Phe	Thr	Thr	Glu	Phe 640	Leu	Gln	Arg	Cys	Arg 645
Ala	Asn	Thr	Val	Leu 650	Gly	Gln	Gln	Ile	Tyr 655	Phe	Pro	Ile	Ile	Phe 660
Ser	Gln	Tyr	Asp	Pro 665	Lys	Ile	Val	Tyr	Ser 670	Gly	Lys	Val	Pro	Ser 675
Asp	Asn	His	Phe	Ala 680	Phe	Thr	Gln	Lys	Thr 685	Gly	Phe	Trp	Arg	Asn 690
Tyr	Gly	Phe	Gly	Ile 695	Thr	Cys	Ile	Tyr	Lys 700	Gly	Asp	Leu	Val	Arg 705
Val	Gly	Gly	Phe	Asp 710	Val	Ser	Ile	Gln	Gly 715	Trp	Gly	Leu	Glu	Asp 720
Val	Asp	Leu	Phe	Asn 725	Lys	Val	Val	Gln	Ala 730	Gly	Leu	Lys	Thr	Phe 735
Arg	Ser	Gln	Glu	Val 740	Gly	Val	Val	His	Val 745	His	His	Pro	Val	Phe 750
Cys	Asp	Pro	Asn	Leu 755	Asp	Pro	Lys	Gln	Tyr 760	Lys	Met	Cys	Leu	Gly 765
Ser	Lys	Ala	Ser	Thr 770	Tyr	Gly	Ser	Thr	Gln 775	Gln	Leu	Ala	Glu	Met 780
Trp	Leu	Glu	Lys	Asn 785	Asp	Pro	Ser	Tyr	Ser 790	Lys	Ser	Ser	Asn	Asn 795
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 262
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<210> 263
<211> 46
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<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
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<210> 264
<211> 1419
<212> DNA
<213> Homo sapiens
<400> 264
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<210> 265

<211> 350

<212> PRT

<213> Homo sapiens

<400> 265

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Ser Val Pro Ala Tyr Pro Ser Ile Thr Val Thr Pro Asp Glu Glu
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Gln Asn Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg

Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser

100

				50					55					60
Pro	Lys	His	Val	Tyr 65	Ser	Ile	Ala	Ser	Lys 70	Gly	Ser	Lys	Phe	Lys 75
Glu	Leu	Val	Thr	His 80	Gly	Asp	Ala	Ser	Thr 85	Glu	Asn	Asp	Val	Leu 90
Thr	Asn	Pro	Ile	Ser 95	Glu	Glu	Thr	Thr	Thr 100	Phe	Pro	Thr	Gly	Gly 105
Phe	Thr	Pro	Glu	Ile 110	Gly	Lys	Lys	Lys	His 115	Thr	Glu	Ser	Thr	Pro 120
Phe	Trp	Ser	Ile	Lys 125	Pro	Asn	Asn	Val	Ser 130	Ile	Val	Leu	His	Ala 135
Glu	Glu	Pro	Tyr	Ile 140	Glu	Asn	Glu	Glu	Pro 145	Glu	Pro	Glu	Pro	Glu 150
Pro	Ala	Ala	Lys	Gln 155	Thr	Glu	Ala	Pro	Arg 160	Met	Leu	Pro	Val	Val 165
Thr	Glu	Ser	Ser	Thr 170	Ser	Pro	Tyr	Val	Thr 175	Ser	Tyr	Lys	Ser	Pro 180
Val	Thr	Thr	Leu	Asp 185	Lys	Ser	Thr	Gly	Ile 190	Glu	Ile	Ser	Thr	Glu 195
Ser	Glu	Asp	Val	Pro 200	Gln	Leu	Ser	Gly	Glu 205	Thr	Ala	Ile	Glu	Lys 210
Pro	Glu	Glu	Phe	Gly 215	Lys	His	Pro	Glu	Ser 220	Trp	Asn	Asn	Asp	Asp 225
Ile	Leu	Lys	Lys	Ile 230	Leu	Asp	Ile	Asn	Ser 235	Gln	Val	Gln	Gln	Ala 240
Leu	Leu	Ser	Asp	Thr 245	Ser	Asn	Pro	Ala	Tyr 250	Arg	Glu	Asp	Ile	Glu 255
Ala	Ser	Lys	Asp	His 260	Leu	Lys	Arg	Ser	Leu 265	Ala	Leu	Ala	Ala	Ala 270
Ala	Glu	His	Lys	Leu 275	Lys	Thr	Met	Tyr	Lys 280	Ser	Gln	Leu	Leu	Pro 285
Val	Gly	Arg	Thr	Ser 290	Asn	Lys	Ile	Asp	Asp 295	Ile	Glu	Thr	Val	Ile 300
Asn	Met	Leu	Cys	Asn 305	Ser	Arg	Ser	Lys	Leu 310	Tyr	Glu	Tyr	Leu	Asp 315
Ile	Lys	Cys	Val	Pro 320	Pro	Glu	Met	Arg	Glu 325	Lys	Ala	Ala	Thr	Val 330
Phe	Asn	Thr	Leu	Lys 335	Asn	Met	Cys	Arg	Ser 340	Arg	Arg	Val	Thr	Ala 345

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<211> 2403

<212> DNA

<213> Homo sapiens

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<210> 267

<211> 466

<212> PRT

<213> Homo sapiens

<400> 267

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Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala

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Thr	Ser	Ala	Glu	Ala 50	Met	Glu	Val	Arg	Phe 55		Arg	Asn	Gln	Phe 60
•				•	_		_	_	<b>~</b> 3	~ 7	_		<b>~1</b>	<b>a</b>

His Ala Val Val His Leu Tyr Arg Asp Gly Glu Asp Trp Glu Ser
65 70 75

Lys Gln Met Pro Gln Tyr Arg Gly Arg Thr Glu Phe Val Lys Asp 80 85 90

Ser Ile Ala Gly Gly Arg Val Ser Leu Arg Leu Lys Asn Ile Thr 95 100 105

Pro Ser Asp Ile Gly Leu Tyr Gly Cys Trp Phe Ser Ser Gln Ile 110 115 120

Tyr Asp Glu Glu Ala Thr Trp Glu Leu Arg Val Ala Ala Leu Gly
125 130 135

Ser Leu Pro Leu Ile Ser Ile Val Gly Tyr Val Asp Gly Gly Ile 140 145 150

Gln Leu Cys Leu Ser Ser Gly Trp Phe Pro Gln Pro Thr Ala 155 160 165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Ser Asp Ser Arg 170 175 180

Ala Asn Ala Asp Gly Tyr Ser Leu Tyr Asp Val Glu Ile Ser Ile 185 190 195

Ile Val Gl<br/>n Glu Asn Ala Gly Ser Ile Leu Cys Ser Ile His Leu 200 205 210

Ala Glu Gln Ser His Glu Val Glu Ser Lys Val Leu Ile Gly Glu 215 220 225

Thr Phe Phe Gln Pro Ser Pro Trp Arg Leu Ala Ser Ile Leu Leu 230 235 240

Gly Leu Leu Cys Gly Ala Leu Cys Gly Val Val Met Gly Met Ile 245 250 255

Ile Val Phe Phe Lys Ser Lys Gly Lys Ile Gln Ala Glu Leu Asp 260 265 270

Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys 275 280 280

His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys 290 295 300

Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro 305 310 315

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Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val
                                                         345
                335
Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp
Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn
                                    370
                365
Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr
Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr
                395
Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe
                410
Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys
                                    430
                425
Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr
                440
Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp
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Gly

<210> 268

<211> 2103

<212> DNA

<213> Homo sapiens

<400> 268

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tggtgaggge taggaaaaga gtttgttggg aaccetgggt tateggeete 100
gteatettea tateeetgat tgteetggea gtgtgeattg gaeteactgt 150
teattatgtg agatataate aaaagaagae etacaattae tatageacat 200
tgteatttae aactgacaaa etatatgetg agtttggeag agaggettet 250
aacaatttta eagaaatgag ecagagaett gaateaatgg tgaaaaatge 300
attttataaa teteeattaa gggaagaatt tgteaagtet eaggttatea 350
agtteagtea acagaageat ggagtgttgg eteatatget gttgatttgt 400
agattteact etaetgagga teetgaaaet gtagataaaa ttgtteaaet 450
tgttttacat gaaaagetge aagatgetgt aggaeeeeet aaagtagate 500

ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550 ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600 caggatcgtt ggtgggacag aagtagaaga gggtgaatgg ccctggcagg 650 ctagcctgca gtgggatggg agtcatcgct gtggagcaac cttaattaat 700 gccacatggc ttgtgagtgc tgctcactgt tttacaacat ataagaaccc 750 tgccagatgg actgcttcct ttggagtaac aataaaacct tcgaaaatga 800 aacggggtct ccggagaata attgtccatg aaaaatacaa acacccatca 850 catgactatg atatttctct tgcagagctt tctagccctg ttccctacac 900 aaatgcagta catagagttt gtctccctga tgcatcctat gagtttcaac 950 caggigatgt gatgittgtg acaggatitg gagcactgaa aaatgatggt 1000 tacagtcaaa atcatcttcg acaagcacag gtgactctca tagacgctac 1050 aacttgcaat gaacctcaag cttacaatga cgccataact cctagaatgt 1100 tatgtgctgg ctccttagaa ggaaaaacag atgcatgcca gggtgactct 1150 ggaggaccac tggttagttc agatgctaga gatatctggt accttgctgg 1200 aatagtgagc tggggagatg aatgtgcgaa acccaacaag cctggtgttt 1250 atactagagt tacggccttg cgggactgga ttacttcaaa aactggtatc 1300 taagagacaa aagcctcatg gaacagataa cattttttt tgttttttgg 1350 gtgtggaggc catttttaga gatacagaat tggagaagac ttgcaaaaca 1400 gctagatttg actgatctca ataaactgtt tgcttgatgc atgtattttc 1450 ttcccagctc tgttccgcac gtaagcatcc tgcttctgcc agatcaactc 1500 tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550 atacaatatt acattacagc ctgtattcat ttgttctcta gaagttttgt 1600 cagaattttg acttgttgac ataaatttgt aatgcatata tacaatttga 1650 agcactcctt ttcttcagtt cctcagctcc tctcatttca gcaaatatcc 1700 attttcaagg tgcagaacaa ggagtgaaag aaaatataag aagaaaaaaa 1750 tcccctacat tttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800 aatattagaa atgatcatat tcattatgaa aggtcaagca aagacagcag 1850 aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900 tccagaaaga agccaagata tatccttatt ttcatttcca aacaactact 1950

atgataaatg tgaagaagat tctgttttt tgtgacctat aataattata 2000 caaacttcat gcaatgtact tgttctaagc aaattaaagc aaatattat 2050 ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaatcac 2100 cca 2103

<210> 269

<211> 423

<212> PRT

<213> Homo sapiens

<400> 269

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Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile 20 25 30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr
35 40 45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr
50 55 60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn 65 70 75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala 80 85 90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val 95 100 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu 110 115 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp 125 130 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val 140  $\phantom{0}$  145  $\phantom{0}$  150

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile 155 160 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr 170 175 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly 185 190 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln 200 205 210

Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr 215 220 225

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Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro
                                     235
Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys
                                     250
                245
Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys
His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser
                                     280
                                                         285
                275
Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp
                                     295
Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly
                                     310
                305
Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg
Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro
                335
Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly
                350
Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly
                                     370
Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly
                                     385
                380
Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly
Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys
                410
Thr Gly Ile
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<210> 270

<211> 1170

<212> DNA

<213> Homo sapiens

<400> 270
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cagacgtcag ctggtggatt cccgctgcat caaggcctac ccactgtctc 150
catgctgggc tctccctgcc ttctgtggct cctggccgtg accttcttgg 200

ttcccagagc tcagcccttg gcccctcaag actttgaaga agaggaggca 250

gatgagactg agacggcgtg gccgcctttg ccggctgtcc cctgcgacta 300 cgaccactgc cgacacctgc aggtgccctg caaggagcta cagagggtcg 350 ggccggcggc ctgcctgtgc ccaggactct ccagccccgc ccagccgccc 400 gacccgccgc gcatgggaga agtgcgcatt gcggccgaag agggccgcgc 450 agtggtccac tggtgtgccc ccttctcccc ggtcctccac tactggctgc 500 tgctttggga cggcagcgag gctgcgcaga aggggccccc gctgaacgct 550 acggtccgca gagccgaact gaaggggctg aagccagggg gcatttatgt 600 cgtttgcgta gtggccgcta acgaggccgg ggcaagccgc gtgccccagg 650 ctggaggaga gggcctcgag ggggccgaca tccctgcctt cgggccttgc 700 ageogeettg eggtgeegee caaceeege actetggtee aegeggeegt 750 cggggtgggc acggccctgg ccctgctaag ctgtgccgcc ctggtgtggc 800 acttctgcct gcgcgatcgc tggggctgcc cgcgccgagc cgccgcccga 850 gccgcagggg cgctctgaaa ggggcctggg ggcatctcgg gcacagacag 900 ccccacctgg ggcgctcagc ctggcccccg ggaaagagga aaacccgctg 950 cctccaggga gggctggacg gcgagctggg agccagcccc aggctccagg 1000 gccacggcgg agtcatggtt ctcaggactg agcgcttgtt taggtccggt 1050 acttggcgct ttgtttcctg gctgaggtct gggaaggaat agaaaggggc 1100 ccccaatttt tttttaagcg gccagataat aaataatgta acctttgcgg 1150 ttaaaaaaaa aaaaaaaaa 1170

<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

Met Leu Gly Ser Pro Cys Leu Leu Trp Leu Leu Ala Val Thr Phe 1 5 10 15

Leu Val Pro Arg Ala Gln Pro Leu Ala Pro Gln Asp Phe Glu Glu 20 25 30

Glu Glu Ala Asp Glu Thr Glu Thr Ala Trp Pro Pro Leu Pro Ala 35 40 45

Val Pro Cys Asp Tyr Asp His Cys Arg His Leu Gln Val Pro Cys
50 55 60

Lys Glu Leu Gln Arg Val Gly Pro Ala Ala Cys Leu Cys Pro Gly
65 70 75

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Leu Ser Ser Pro Ala Gln Pro Pro Asp Pro Pro Arg Met Gly Glu
Val Arg Ile Ala Ala Glu Glu Gly Arg Ala Val Val His Trp Cys
                                    100
                                                         105
Ala Pro Phe Ser Pro Val Leu His Tyr Trp Leu Leu Trp Asp
Gly Ser Glu Ala Ala Gln Lys Gly Pro Pro Leu Asn Ala Thr Val
Arg Arg Ala Glu Leu Lys Gly Leu Lys Pro Gly Gly Ile Tyr Val
Val Cys Val Val Ala Ala Asn Glu Ala Gly Ala Ser Arg Val Pro
                155
Gln Ala Gly Gly Glu Gly Leu Glu Gly Ala Asp Ile Pro Ala Phe
Gly Pro Cys Ser Arg Leu Ala Val Pro Pro Asn Pro Arg Thr Leu
                185
Val His Ala Ala Val Gly Val Gly Thr Ala Leu Ala Leu Leu Ser
                                                         210
                200
                                    205
Cys Ala Ala Leu Val Trp His Phe Cys Leu Arg Asp Arg Trp Gly
                                                         225
                                    220
                215
Cys Pro Arg Arg Ala Ala Ala Arg Ala Ala Gly Ala Leu
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<210> 272

<211> 2397

<212> DNA

<213> Homo sapiens

<400> 272

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aagtttgctt gtcattttct gtgtagaact ggcttgtggc gtttggacat 550 atgaacagga acttatggtt ccagtacaat ggtcagatat ggtcactttg 600 aaagccagga tgacaaatta tggattacct agatatcggt ggcttactca 650 tgcttggaat tttttcaga gagagtttaa gtgctgtgga gtagtatatt 700 tcactgactg gttggaaatg acagagatgg actggccccc agattcctgc 750 tgtgttagag aattcccagg atgttccaaa caggcccacc aggaagatct 800 cagtgacctt tatcaagagg gttgtgggaa gaaaatgtat tcctttttga 850 gaggaaccaa acaactgcag gtgctgaggt ttctgggaat ctccattggg 900 gtgacacaaa tcctggccat gattctcacc attactctgc tctgggctct 950 gtattatgat agaagggagc ctgggacaga ccaaatgatg tccttgaaga 1000 atgacaactc tcagcacctg tcatgtccct cagtagaact gttgaaacca 1050 agcctgtcaa gaatctttga acacacatcc atggcaaaca gctttaatac 1100 acactttgag atggaggagt tataaaaaga aatgtcacag aagaaaacca 1150 caaacttgtt ttattggact tgtgaatttt tgagtacata ctatgtgttt 1200 cagaaatatg tagaaataaa aatgttgcca taaaataaca cctaagcata 1250 tactattcta tgctttaaaa tgaggatgga aaagtttcat gtcataagtc 1300 accacctgga caataattga tgcccttaaa atgctgaaga cagatgtcat 1350 acceactgtg tagectgtgt atgactttta ctgaacacag ttatgttttg 1400 aggcagcatg gtttgattag catttccgca tccatgcaaa cgagtcacat 1450 atggtgggac tggagccata gtaaaggttg atttacttct accaactagt 1500 atataaagta ctaattaaat gctaacatag gaagttagaa aatactaata 1550 acttttatta ctcagcgatc tattcttctg atgctaaata aattatatat 1600 cagaaaactt tcaatattgg tgactaccta aatgtgattt ttgctggtta 1650 ctaaaatatt cttaccactt aaaagagcaa gctaacacat tgtcttaagc 1700 tgatcaggga ttttttgtat ataagtctgt gttaaatctg tataattcag 1750 tcgatttcag ttctgataat gttaagaata accattatga aaaggaaaat 1800 ttgtcctgta tagcatcatt atttttagcc tttcctgtta ataaagcttt 1850 actattctgt cctgggctta tattacacat ataactgtta tttaaatact 1900 taaccactaa ttttgaaaat taccagtgtg atacatagga atcattattc 1950 agaatgtagt ctggtcttta ggaagtatta ataagaaaat ttgcacataa 2000 cttagttgat tcagaaagga cttgtatgct gttttctcc caaatgaaga 2050 ctctttttga cactaaacac tttttaaaaa gcttatcttt gccttctcca 2100 aacaagaagc aatagtctcc aagtcaatat aaattctaca gaaaatagtg 2150 ttcttttct ccagaaaaat gcttgtgaga atcattaaaa catgtgacaa 2200 tttagagatt ctttgttta tttcactgat taatatactg tggcaaatta 2250 cacagattat taaattttt tacaagagta tagtatatt atttgaaatg 2300 ggaaaagtgc attttactgt atttgtgta ttttgtttat ttctcagaat 2350 atggaaagaa aattaaaatg tgtcaataaa tatttctag agagtaa 2397

<210> 273

<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

Met Ala Arg Glu Asp Ser Val Lys Cys Leu Arg Cys Leu Leu Tyr 1 10 15

Ala Leu Asn Leu Leu Phe Trp Leu Met Ser Ile Ser Val Leu Ala 20 25 30

Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu 35 40 45

Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe
50 55 60

Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile
65 70 75

Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu 80 85 90

Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys 95 100 105

Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met 110 115 120

Val Pro Val Gln Trp Ser Asp Met Val Thr Leu Lys Ala Arg Met 125 130 135

Thr Asn Tyr Gly Leu Pro Arg Tyr Arg Trp Leu Thr His Ala Trp
140 145 150

Asn Phe Phe Gln Arg Glu Phe Lys Cys Cys Gly Val Val Tyr Phe 155 160 165

Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser

	170					175					180
Cys Cys Val A	arg Glu 185	Phe	Pro	Gly	Cys	Ser 190	Lys	Gln	Ala	His	Gln 195
Glu Asp Leu S	er Asp 200	Leu	Tyr	Gln	Glu	Gly 205	Cys	Gly	Lys	Lys	Met 210
Tyr Ser Phe L	eu Arg 215	Gly	Thr	Lys	Gln	Leu 220	Gln	Val	Leu	Arg	Phe 225
Leu Gly Ile S	Ser Ile 230	Gly	Val	Thr	Gln	Ile 235	Leu	Ala	Met	Ile	Leu 240
Thr Ile Thr L	eu Leu 245	Trp	Ala	Leu	Tyr	Tyr 250	Asp	Arg	Arg	Glu	Pro 255
Gly Thr Asp G	In Met 260	Met	Ser	Leu	Lys	Asn 265	Asp	Asn	Ser	Gln	His 270
Leu Ser Cys P	ro Ser 275	Val	Glu	Leu	Leu	Lys 280	Pro	Ser	Leu	Ser	Arg 285
Ile Phe Glu H	lis Thr 290	Ser	Met	Ala	Asn	Ser 295	Phe	Asn	Thr	His	Phe 300
Glu Met Glu G	lu Leu 305										
<210> 274 <211> 2063 <212> DNA <213> Homo sap	oiens										
<400> 274											E 0

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## caaaaaaaa aaa 2063

- <210> 275
- <211> 432
- <212> PRT
- <213> Homo sapiens

## <400> 275

- Met Leu Gln Asp Pro Asp Ser Asp Gln Pro Leu Asn Ser Leu Asp 1 5 10
- Val Lys Pro Leu Arg Lys Pro Arg Ile Pro Met Glu Thr Phe Arg 20 25 30
- Lys Val Gly Ile Pro Ile Ile Ile Ala Leu Leu Ser Leu Ala Ser 35 40 45
- Ile Ile Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr
  50 55 60
- Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln 65 70 75
- Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu 80 85 90
- His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg 95 100 105
- Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr 110 115 120
- Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu 125 130 135
- Alá Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu 140 145 150
- Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn 155 160 165
- Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser 170 175 180
- Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu 185 190 195
- Lys Thr Pro Arg Val Val Gly Gly Glu Glu Ala Ser Val Asp Ser
- Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys
- Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His 230 235 240
- Cys Phe Arg Lys His Thr Asp Val Phe Asn Trp Lys Val Arg Ala 245 250

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Gly Ser Asp Lys Leu Gly Ser Phe Pro Ser Leu Ala Val Ala Lys
                                    265
Ile Ile Ile Ile Glu Phe Asn Pro Met Tyr Pro Lys Asp Asn Asp
                275
                                     280
                                                         285
Ile Ala Leu Met Lys Leu Gln Phe Pro Leu Thr Phe Ser Gly Thr
Val Arg Pro Ile Cys Leu Pro Phe Phe Asp Glu Glu Leu Thr Pro
                305
                                    310
Ala Thr Pro Leu Trp Ile Ile Gly Trp Gly Phe Thr Lys Gln Asn
Gly Gly Lys Met Ser Asp Ile Leu Leu Gln Ala Ser Val Gln Val
                335
Ile Asp Ser Thr Arg Cys Asn Ala Asp Asp Ala Tyr Gln Gly Glu
                350
Val Thr Glu Lys Met Met Cys Ala Gly Ile Pro Glu Gly Gly Val
                365
Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Tyr Gln Ser
                                     385
                380
Asp Gln Trp His Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys
                                     400
                395
Gly Gly Pro Ser Thr Pro Gly Val Tyr Thr Lys Val Ser Ala Tyr
                                     415
                410
Leu Asn Trp Ile Tyr Asn Val Trp Lys Ala Glu Leu
                                     430
                425
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<210> 276

<211> 3143

<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;211> 761

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 277

Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu Phe Leu Phe Gln Leu Leu Gln Leu Leu Pro Thr Thr Thr Ala Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe Asp Thr Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser Glu Cys Ala Phe Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile Arg Val Leu Val Ser Tyr Asn 125 Val Thr His Leu Tyr Thr Cys Gly Thr Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr Leu Leu Pro Ile Ser 155 Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser Pro Phe Asp Pro 170 Ala His Lys His Thr Ala Val Leu Val Asp Gly Met Leu Tyr Ser 185 Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu Met Arg 200 Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp 255 245 Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro

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Thr	Ala	Pro	His	Ile 320	Tyr	Ala	Val	Phe	Thr 325	Ser	Gln	Trp	Gln	Val 330
Gly	Gly	Thr	Arg	Ser 335	Ser	Ala	Val	Cys	Ala 340	Phe	Ser	Leu	Leu	Asp 345
Ile	Glu	Arg	Val	Phe 350	Lys	Gly	Lys	Tyr	Lys 355	Glu	Leu	Asn	Lys	Glu 360
Thr	Ser	Arg	Trp	Thr 365	Thr	Tyr	Arg	Gly	Pro 370	Glu	Thr	Asn	Pro	Arg 375
Pro	Gly	Ser	Cys	Ser 380	Val	Gly	Pro	Ser	Ser 385	Asp	Lys	Ala	Leu	Thr 390
Phe	Met	Lys	Asp	His 395	Phe	Leu	Met	Asp	Glu 400	Gln	Val	Val	Gly	Thr 405
Pro	Leu	Leu	Val	Lys 410	Ser	Gly	Val	Glu	Tyr 415	Thr	Arg	Leu	Ala	Val 420
Glu	Thr	Ala	Gln	Gly 425	Leu	Asp	Gly	His	Ser 430	His	Leu	Val	Met	Tyr 435
Leu	Gly	Thr	Thr	Thr 440	Gly	Ser	Leu	His	Lys 445	Ala	Val	Val	Ser	Gly 450
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Pro	Glu	Pro	Val	Arg 470	Asn	Leu	Gln	Leu	Ala 475	Pro	Thr	Gln	Gly	Ala 480
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Asn	Cys	Ser	Val	Tyr 500	Glu	Ser	Cys	Val	Asp 505	Cys	Val	Leu	Ala	Arg 510
Asp	Pro	His	Суз	Ala 515	Trp	Asp	Pro	Glu	Ser 520	Arg	Thr	Суз	Cys	Leu 525
Leu	Ser	Ala	Pro	Asn 530	Leu	Asn	Ser	Trp	Lys 535	Gln	Asp	Met	Glu	Arg 540
Gly	Asn	Pro	Glu	Trp 545		Cys	Ala	Ser	Gly 550	Pro	Met	Ser	Arg	Ser 555
Leu	Arg	Pro	Gln	Ser 560	Arg	Pro	Gln	Ile	Ile 565	Lys	Glu	Val	Leu	Ala 570
Val	Pro	Asn	Ser	Ile 575		Glu	Leu	Pro	Cys 580		His	Leu	Ser	Ala 585

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                                     595
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Asp Gly Val Gly Gly Leu Tyr Gln Cys Trp Ala Thr Glu Asn Gly
Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val Asp Ser Gln Asp Gln
Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile Pro Arg Glu His
                                     655
Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala Ala Leu Ala
                 665
                                     670
Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr Val Leu
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Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala Ser
                 695
 Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
                 710
Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
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Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp
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Ala Asp Asn Asn Cys Leu Gly Thr Glu Val Ala
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<221> Artificial Sequence
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111

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Leu Ser Tyr Val Pro Val Phe Arg Ser Leu Leu Thr Asp His Met 195

Asp Phe Trp Gly Arg 200 Val Lys Asn Phe Leu Met Phe Phe Ser Phe 210

Cys Arg Arg Gln Gln His Met Gln Ser Thr Phe Asp Asn Thr Ile 225

Lys Glu His Phe Thr Glu Gly Ser Arg Pro Val Leu Ser His Leu 240

Leu Leu Lys Ala Glu Leu Trp Phe Ile Asn Ser Asp Phe Ala Phe 255

Asp Phe Ala Arg Pro Leu Leu Pro Asn Thr Val Tyr Val Gly Gly

18.1

175

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Phe	Ile	Ala	Lys	Phe 290	Gly	Asp	Ser	Gly	Phe 295	Val	Leu	Val	Thr	Leu 300
Gly	Ser	Met	Val	Asn 305	Thr	Суз	Gln	Asn	Pro 310	Glu	Ile	Phe	Lys	Glu 315
Met	Asn	Asn	Ala	Phe 320	Ala	His	Leu	Pro	Gln 325	Gly	Val	Ile	Trp	Lys 330
Cys	Gln	Суз	Ser	His 335	Trp	Pro	Lys	Asp	Val 340	His	Leu	Ala	Ala	Asn 345
Val	Lys	Ile	Val	Asp 350	Trp	Leu	Pro	Gln	Ser 355	Asp	Leu	Leu	Ala	His 360
Pro	Ser	Ile	Arg	Leu 365	Phe	Val	Thr	His	Gly 370	Gly	Gln	Asn	Ser	Ile 375
Met	Glu	Ala	Ile	Gln 380	His	Gly	Val	Pro	Met 385	Val	Gly	Ile	Pro	Leu 390
Phe	Gly	Asp	Gln	Pro 395	Glu	Asn	Met	Val	Arg 400	Val	Glu	Ala	Lys	Lys 405
Phe	Gly	Val	Ser	Ile 410	Gln	Leu	Lys	Lys	Leu 415	Lys	Ala	Glu	Thr	Leu 420
Ala	Leu	Lys	Met	Lys 425	Gln	Ile	Met	Glu	Asp 430	Lys	Arg	Tyr	Lys	Ser 435
Ala	Ala	Val	Ala	Ala 440	Ser	Val	Ile	Leu	Arg 445	Ser	His	Pro	Leu	Ser 450
Pro	Thr	Gln	Arg	Leu 455	Val	Gly	Trp	Ile	Asp 460	His	Val	Leu	Gln	Thr 465
Gly	Gly	Ala	Thr	His 470	Leu	Lys	Pro	Tyr	Val 475	Phe	Gln	Gln	Pro	Trp 480
His	Glu	Gln	Tyr	Leu 485	Phe	Asp	Val	Phe	Val 490	Phe	Leu	Leu	Gly	Leu 495
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 gtgctgtccc atccagcagg gctaccctga agctctggct gcagccctcc 200
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111 1111 1 111

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<211> 205

<212> PRT

<213> Homo sapiens

<400> 287

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Pro Gly Leu Pro Leu Val Leu Val Leu Leu Ala Leu Gly Ala Gly 20 25 30

Trp Ala Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys 35 40 45

Leu Val Val Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly 50 55 60

Gly Ala Ala Leu Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala 65 70 75

Ala Val Arg Ser His His His Glu Pro Ala Gly Glu Thr Gly Asn 80 85 90

Gly Thr Ser Gly Ala Ile Tyr Phe Asp Gln Val Leu Val Asn Glu 95 100 105

Gly Gly Gly Phe Asp Arg Ala Ser Gly Ser Phe Val Ala Pro Val 110 115 120

Arg Gly Val Tyr Ser Phe Arg Phe His Val Val Lys Val Tyr Asn 125 130 135

Arg Gln Thr Val Gln Val Ser Leu Met Leu Asn Thr Trp Pro Val
140 145 150

Ile Ser Ala Phe Ala Asn Asp Pro Asp Val Thr Arg Glu Ala Ala 155 160 165

Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly Asp Arg Val Ser

180

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Ser Phe Ser Gly Phe Leu Ile Phe Pro Leu 200 205

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- <223> Synthetic construct.
- <400> 288

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- <211> 27
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- <222> 1-27
- <223> Synthetic construct.
- <400> 289

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- <223> Synthetic construct.
- <400> 290

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- <211> 1570
- <212> DNA
- <213> Homo sapiens
- <400> 291

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ttcccgcggg gccgtgactg ggcgggcttc agccatgaag accctcatag 200 ccgcctactc cggggtcctg cgcggcgagc gtcaggccga ggctgaccgg 250 agccagcgct ctcacggagg acctgcgctg tcgcgcgagg ggtctgggag 300 atggggcact ggatccagca tcctctccgc cctccaggac ctcttctctg 350 tcacctggct caataggtcc aaggtggaaa agcagctaca ggtcatctca 400 gtgctccagt gggtcctgtc cttccttgta ctgggagtgg cctgcagtgc 450 catcctcatg tacatattct gcactgattg ctggctcatc gctgtgctct 500 acttcacttg gctggtgttt gactggaaca cacccaagaa aggtggcagg 550 aggtcacagt gggtccgaaa ctgggctgtg tggcgctact ttcgagacta 600 ctttcccatc cagctggtga agacacacaa cctgctgacc accaggaact 650 atatctttgg ataccaccc catggtatca tgggcctggg tgccttctgc 700 aacttcagca cagaggccac agaagtgagc aagaagttcc caggcatacg 750 gccttacctg gctacactgg caggcaactt ccgaatgcct gtgttgaggg 800 agtacctgat gtctggaggt atctgccctg tcagccggga caccatagac 850 tatttgcttt caaagaatgg gagtggcaat gctatcatca tcgtggtcgg 900 gggtgcggct gagtctctga gctccatgcc tggcaagaat gcagtcaccc 950 tgcggaaccg caagggettt gtgaaactgg ccctgcgtca tggagctgac 1000 ctggttccca tctactcctt tggagagaat gaagtgtaca agcaggtgat 1050 cttcgaggag ggctcctggg gccgatgggt ccagaagaag ttccagaaat 1100 acattggttt cgccccatgc atcttccatg gtcgaggcct cttctcctcc 1150 gacacctggg ggctggtgcc ctactccaag cccatcacca ctgttgtggg 1200 agageceate accatececa agetggagea eccaacecag caagacateg 1250 acctgtacca caccatgtac atggaggccc tggtgaagct cttcgacaag 1300 cacaagacca agttcggcct cccggagact gaggtcctgg aggtgaactg 1350 agccagcett eggggeeaat teeetggagg aaccagetge aaatcaettt 1400 tttgctctgt aaatttggaa gtgtcatggg tgtctgtggg ttatttaaaa 1450 aaaaaaaaa aaaaaaaaaa 1570

<210> 292 <211> 388 <212> PRT <213> Homo sapiens <400> 292

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Leu Arg Asn Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly

	260		265	5		270				
Ala Asp Leu Val	Pro Ile 275	Tyr Ser	Phe Gly 280		n Glu Val	Tyr 285				
Lys Gln Val Ile	Phe Glu 290	Glu Gly	Ser Try 295		g Trp Val	Gln 300				
Lys Lys Phe Gln	Lys Tyr 305	Ile Gly	Phe Ala		s Ile Phe	His 315				
Gly Arg Gly Leu	Phe Ser 320	Ser Asp	Thr Try		ı Val Pro	Tyr 330				
Ser Lys Pro Ile	Thr Thr 335	Val Val	Gly Glu 340		e Thr Ile	Pro 345				
Lys Leu Glu His	Pro Thr 350	Gln Gln	Asp Ile 355		ı Tyr His	Thr 360				
Met Tyr Met Glu	Ala Leu 365	Val Lys	Leu Phe		s His Lys	Thr 375				
Lys Phe Gly Leu	Pro Glu 380	Thr Glu	Val Let 385		l Asn					
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11911

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accetgtete 3060

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<400> 297

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Val Gln Leu Cys Thr Leu Ala Leu Trp Pro Val Ser Lys Gln Leu Asn Ser Val Met Leu Leu Glu Trp Trp Ser Cys Thr Ser Cys Thr Leu 75

Phe Thr Asp Gln Ala Thr Val Glu Arg Phe Gly Val Leu Cys Gly His Ala 90

Val Ile Ile Leu Asn His Asn Phe Glu Ile Asp Phe Leu Cys Gly 105

Trp Thr Met Cys Glu Arg Phe Gly Val Leu Gly Ser Ser Lys Val 120

Met Gly Leu Leu Ala Phe Leu Lys Thr Gln Phe Val Leu His Leu

Leu Ala Lys Lys Glu Leu Leu Tyr Val Pro Leu Ile Gly Trp Thr 135

Trp Tyr Phe Leu Glu Ile Val Phe Cys Lys Arg Lys Trp Glu Glu 140

Asp Arg Asp Thr Val Val Glu Gly Leu Arg Arg Leu Ser Asp Tyr

Asp Arg Asp Thr Val Val Glu Gly Leu Arg Arg Leu Ser Asp Tyr 155 160 165

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Pro Glu Tyr Met Trp Phe Leu Leu Tyr Cys Glu Gly Thr Arg Phe
                 170
 Thr Glu Thr Lys His Arg Val Ser Met Glu Val Ala Ala Ala Lys
                 185
 Gly Leu Pro Val Leu Lys Tyr His Leu Leu Pro Arg Thr Lys Gly
 Phe Thr Thr Ala Val Lys Cys Leu Arg Gly Thr Val Ala Ala Val
 Tyr Asp Val Thr Leu Asn Phe Arg Gly Asn Lys Asn Pro Ser Leu
 Leu Gly Ile Leu Tyr Gly Lys Lys Tyr Glu Ala Asp Met Cys Val
 Arg Arg Phe Pro Leu Glu Asp Ile Pro Leu Asp Glu Lys Glu Ala
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 Ala Gln Trp Leu His Lys Leu Tyr Gln Glu Lys Asp Ala Leu Gln
 Glu Ile Tyr Asn Gln Lys Gly Met Phe Pro Gly Glu Gln Phe Lys
                 290
                                     295
 Pro Ala Arg Arg Pro Trp Thr Leu Leu Asn Phe Leu Ser Trp Ala
                                     310
                 305
 Thr Ile Leu Leu Ser Pro Leu Phe Ser Phe Val Leu Gly Val Phe
                                     325
                 320
 Ala Ser Gly Ser Pro Leu Leu Ile Leu Thr Phe Leu Gly Phe Val
                                     340
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 Glu Pro Gly Arg Trp Arg Leu Gln
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<210> 299 <211> 21 <212> DNA

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<222> 1-45
<223> Synthetic construct.
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<211> 1334
<212> DNA
<213> Homo sapiens
<400> 301
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gttgtatggg ttgtgtctgt tccccagaat gcccagctct gagctgcgtg 750

agggtcaagg gcattgctgt gcctgccagg tatagtgcct acatgtggtg 800 ggtgctcatg ttttagagac taaatggagg aggagatgag gaaaagattg 850 aaatctctca gttcaccaga tggtgtaggg cccagcattg taaattcaca 900 cgttgactgt gcttgtgaat tatctgggga tgcaggtcct gattcagtag 950 gcccaggttg ggcatctcta acaaactccc acgtgatgct gatgctggtc 1000 ctatgaacta tactaaatag taagaatcta tggagccagg ctgggcatgg 1050 tggctcacac ctatgatccc agcactttgg gaggctgagg caggctgatc 1100 acctggagtc aggattcaa gactagcctg gccaacatgg tggaacccca 1150 tctgtactaa aaatacacaa attagctggg catggtggca catgctgta 1200 gtcccagcta cttgggaggc tgaagcaaga gaatcgcttg aacctgggag 1250 gcggaggttg cagtgagcc aggatcagac actgtattcc aaccagggtg 1300 acagagtgag actctatgtc caaaaaaaaa aaaa 1334

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<213> Homo sapiens

<400> 302

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His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe 20 25 30

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly
35 40 45

Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val
50 55 60

Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp
65 70 75

Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr 80 85 90

Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln 95 100 105

Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu

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Cys Gly Val Leu Leu Ser Phe Leu

<210> 303 <211> 1768

<212> DNA

<213> Homo sapiens

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<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

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Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu 20 25 30

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly 50 55 60

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro 65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala 80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly 95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305

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<210> 306

<211> 262

<212> PRT

<213> Homo sapiens

<400> 306

Met Thr Gln Pro Val Pro Arg Leu Ser Val Pro Ala Ala Leu Ala 1 5 10 15

Leu Gly Ser Ala Ala Leu Gly Ala Ala Phe Ala Thr Gly Leu Phe  $20 \\ 25 \\ 30$ 

Leu Gly Arg Arg Cys Pro Pro Trp Arg Gly Arg Arg Glu Gln Cys 35 40 45

Leu Leu Pro Pro Glu Asp Ser Arg Leu Trp Gln Tyr Leu Leu Ser 50 55 60

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Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu
Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln
Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys
Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu
                110
Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val
Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala
Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu
                                                         165
Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp
                170
Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr
                185
                                                         195
Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val
Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly
                215
                                                         225
Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg
                                                         240
                                    235
Arg Asp Val Arg Val Tyr Ile Ser Leu Leu Pro Leu Gly Asp Gly
                                                         255
                245
Leu Thr Leu Ala Phe Lys Ile
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<210> 307

<211> 2272

<212> DNA

<213> Homo sapiens

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Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro 50 55 60

Tyr Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys 65 70 75

Gly Phe Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala 80 85 90

Ser Tyr Ser Ala Pro Pro Pro Val Ser Ser Ser Asp Ser Glu Ala 95 100 105

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Ser	Glu	Lys	Thr	Ser 200	Asp	Gln	Asp	Phe	Thr 205	Pro	Glu	Lys	Lys	Ala 210
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Glu	Asp	Asp	Glu	Pro 380	Val	Lys	Lys	Arg	Gly 385	Arg	Lys	Gly	Arg	Gly 390
Arg	Gly	Pro	Pro	Ser 395	Ser	Ser	Asp	Ser	Glu 400	Pro	Glu	Ala	Glu	Leu 405
Glu	Arg	Glu	Ala	Lys 410	Lys	Ser	Ala	Lys	Lys 415	Pro	Gln	Ser	Ser	Ser 420
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Glu Ile Lys Phe Ala Leu Lys Val Asp Ser Pro Asp Val Lys Arg
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Cys Leu Asn Ala Leu Glu Glu Leu Gly Thr Leu Gln Val Thr Ser
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Gln Ile Leu Gln Lys Asn Thr Asp Val Val Ala Thr Leu Lys Lys
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Ile Arg Arg Tyr Lys Ala Asn Lys Asp Val Met Glu Lys Ala Ala
Glu Val Tyr Thr Arg Leu Lys Ser Arg Val Leu Gly Pro Lys Ile
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Ala Glu Glu Lys Leu Ala Gly Glu Glu Leu Ala Gly Glu Glu Ala
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Cys Gly Ser Ser Glu Asp Leu His Asp Ser Val Arg Glu Gly Pro
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Lys Leu Thr Tyr Lys Asp Leu Leu Leu Ser Asn Ser Cys Ile Pro
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Asp Glu Glu Arg Gly Arg Leu Leu Gly Ala Lys Asp His Ile

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Cys	Lys	Asn	Asp	Val 290	Gly	Gly	Gln	Arg	Ser 295	Leu	Ile	Asn	Lys	Trp 300
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Thr	Thr	Thr	Ser	Ser 350		Phe	Lys	Gly	Ser 355	Ala	Val	Cys	Val	Tyr 360
Ser	Met	Ala	Asp	Ile 365		Ala	Val	Phe	Asn 370	Gly	Pro	Tyr	Ala	His 375

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Leu	Ile	Lys	Ser	Thr 410	Arg	Asp	Phe	Pro	Asp 415	Asp	Val	Ile	Ser	Phe 420
Ile	Lys	Arg	His	Ser 425	Val	Met	Tyr	Lys	Ser 430	Val	Tyr	Pro	Val	Ala 435
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Thr	Glu	Tyr	Gly	Leu 650	Leu	Ile	Arg	Ser	Leu 655	Gln	Lys	Lys	Asp	Ser 660
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Asp Lys Ala Leu	Asp Phe Pro 335	Gly Phe Leu Asp Met 340	Met Ala Pro 345
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Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser 65 70 75

Gly Ala Pro Ala Arg Leu Leu Cys Arg Leu Gln Ala Phe Gly Glu 80 85 90

Thr Leu Leu Glu Leu Glu Gln Asp Ser Gly Val Gln Val Glu
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Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly
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Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu

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<210> 324

<211> 239

<212> PRT

<213> Homo sapiens

<400> 324

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1 5 10 15

Leu Gly Met Val Gly Thr Leu Ile Thr Thr Ile Leu Pro His Trp
20 25 30

Arg Arg Thr Ala His Val Gly Thr Asn Ile Leu Thr Ala Val Ser 35 40 45

Tyr Leu Lys Gly Leu Trp Met Glu Cys Val Trp His Ser Thr Gly 50 55 60

Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu Leu Ala Leu Pro Gln 65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Met Val Ile Ser Cys Leu Leu 80 85 90

Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met Lys Cys Thr 95 100 105

Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala Ile Leu 110 115 120

Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Val Ala  $125 \hspace{1.5cm} 130 \hspace{1.5cm} 135$ 

Val Ser Trp Thr Thr Asn Asp Val Val Gln Asn Phe Tyr Asn Pro 140 145 150

Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr 155 160 165

Leu Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu 170 175 180

Leu Cys Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln 185 190 190

Ala Pro Pro Arg Ala Thr Thr Thr Thr Ala Asn Thr Ala Pro Ala 200 205 210

Tyr Gln Pro Pro Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val 215 220 225 Thr Ser Ala Thr His Ser Gly Tyr Arg Leu Asn Asp Tyr Val 230 235

- <210> 325
- <211> 2121
- <212> DNA
- <213> Homo sapiens
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<210> 326

<211> 261

<212> PRT

<213> Homo sapiens

<400> 326

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Leu Gly Leu Ala Gly Cys Ile Ala Ala Thr Gly Met Asp Met Trp  $20 \\ 25 \\ 30$ 

Ser Thr Gln Asp Leu Tyr Asp Asn Pro Val Thr Ser Val Phe Gln 35 40 45

Tyr Glu Gly Leu Trp Arg Ser Cys Val Arg Gln Ser Ser Gly Phe 50 55 60

Thr Glu Cys Arg Pro Tyr Phe Thr Ile Leu Gly Leu Pro Ala Met 65 70 75

Leu Gln Ala Val Arg Ala Leu Met Ile Val Gly Ile Val Leu Gly

80 85 90 Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser 140 145 Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val 155 Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val 170 175 Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala 185 190 Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser 200 205 Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe 215 Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile 230 235 Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro 250 Ser Lys His Asp Tyr Val

<210> 327 <211> 2010 <212> DNA

<213> Homo sapiens

260

<400> 327

grada and treatment transfer t

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attttgttc tgtgaaaaat aaatttcctt cttgtaccat ttctgtttag 1850 ttttactaaa atctgtaaat actgtattt tctgtttatt ccaaatttga 1900 tgaaactgac aatccaattt gaaagtttgt gtcgacgtct gtctagctta 1950 aatgaatgtg ttctatttgc tttatacatt tatattaata aattgtacat 2000 ttttctaatt 2010

<210> 328

<211> 225

<212> PRT

<213> Homo sapiens

<400> 328

Met Ala Thr His Ala Leu Glu Ile Ala Gly Leu Phe Leu Gly Gly
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Val Gly Met Val Gly Thr Val Ala Val Thr Val Met Pro Gln Trp 20 25 30

Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn 35 40 45

Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile 50 55 60

Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro
65 70 75

Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met 80 85 90

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr 95 100 105

Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu 110 115 120

Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile 125 130 135

Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn 140 145 150

Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu 155 160 165

Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala 170 175 180

Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser Tyr 185 190 195

Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His 200 205 210

111

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val 215 220 225

<210> 329

<211> 1315

<212> DNA

<213> Homo sapiens

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<210> 330

<211> 220

<212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ser Ala Gly Met Gln Ile Leu Gly Val Val Leu Thr Leu

1 5 10 15

Leu Gly Trp Val Asn Gly Leu Val Ser Cys Ala Leu Pro Met Trp 20 25 30

Lys Val Thr Ala Phe Ile Gly Asn Ser Ile Val Val Ala Gln Val 35 40 45

Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly
50 55 60

Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln 65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val 80 85 90

Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr 110 115 120

Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro 125 130 135

Val Cys Trp Thr Ala His Ala Ile Ile Arg Asp Phe Tyr Asn Pro 140 145 150

Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr 155 160 165

Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Gly Gly Gly Leu 170 175 180

Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His
185 190 190

Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly 200 205 210

Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val 215 220

<210> 331

<211> 1160

<212> DNA

<213> Homo sapiens

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<400> 331
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gtaaaggcaa tggcatttta tcccttgcaa attgctgggc tggttcttgg 150
gttccttggc atggtgggga ctcttgccac aaccettctg cctcagtggt 200
ggagtatcag cttttgttgg cagcaacatt attgtctttg agaggctctg 250
ggaagggctc tggatgaatt gcatccgaca agccagggtc cggttgcaat 300
geaagtteta tageteettg ttggetetee egeetgeeet ggaaacagee 350
cgggccctca tgtgtgtggc tgttgctctc tccttgatcg ccctgcttat 400
tggcatctgt ggcatgaagc aggtccagtg cacaggctct aacgagaggg 450
ccaaaqcata ccttctggga acttcaggag tcctcttcat cctgacgggt 500
atcttcgttc tgattccggt gagctggaca gccaatataa tcatcagaga 550
tttctacaac ccagccatcc acataggtca gaaacgagag ctgggagcag 600
cacttttcct tggctgggca agcgctgctg tcctcttcat tggagggggt 650
ctgctttgtg gattttgctg ctgcaacaga aagaagcaag ggtacagata 700
tecagtgeet ggetacegtg tgecaeacac agataagega agaaatacga 750
caatgcttag taagacctcc accagttatg tctaatgcct ccttttggct 800
ccaagtatgg actatggtca atgtttttta taaagtcctg ctagaaactg 850
taagtatgtg aggcaggaga acttgcttta tgtctagatt tacattgata 900
cqaaaqtttc aatttqttac tqqtqqtaqq aatqaaaatq acttacttgg 950
acattctgac ttcaggtgta ttaaatgcat tgactattgt tggacccaat 1000
cgctgctcca attttcatat tctaaattca agtataccca taatcattag 1050
caagtgtaca atgatggact acttattact ttttgaccat catgtattat 1100
ctgataagaa tctaaagttg aaattgatat tctataacaa taaaacatat 1150
acctattcta 1160
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Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe

<sup>&</sup>lt;210> 332

<sup>&</sup>lt;211> 173

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 332

<213> Homo sapiens

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Ala	Leu	Met	Cys	Val 35	Ala	Val	Ala	Leu	Ser 40	Leu	Ile	Ala	Leu	Leu 45
Ile	Gly	Ile	Суѕ	Gly 50	Met	Lys	Gln	Val	Gln 55	Cys	Thr	Gly	Ser	Asn 60
Glu	Arg	Ala	Lys	Ala 65	Tyr	Leu	Leu	Gly	Thr 70	Ser	Gly	Val	Leu	Phe 75
Ile	Leu	Thr	Gly	Ile 80	Phe	Val	Leu	Ile	Pro 85	Val	Ser	Trp	Thr	Ala 90
Asn	Ile	Ile	Ile	Arg 95	Asp	Phe	Tyr	Asn	Pro 100	Ala	Ile	His	Ile	Gly 105
Gln	Lys	Arg	Glu	Leu 110	Gly	Ala	Ala	Leu	Phe 115	Leu	Gly	Trp	Ala	Ser 120
Ala	Ala	Val	Leu	Phe 125	Ile	Gly	Gly	Gly	Leu 130	Leu	Cys	Gly	Phe	Cys 135
Cys	Cys	Asn	Arg	Lys 140	Lys	Gln	Gly	Tyr	Arg 145	Tyr	Pro	Val	Pro	Gl <sub>2</sub> 150
Tyr	Arg	Val	Pro	His 155	Thr	Asp	Lys	Arg	Arg 160	Asn	Thr	Thr	Met	Le:
Ser	Lys	Thr	Ser	Thr 170	Ser	Tyr	Val							
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<400> 333
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ctcagaagct gctagtctgt ctccaaaaaa agtggactgc agcatttaca 150
agaagtatcc agtggtggcc atcccctgcc ccatcacata cctaccagtt 200
tgtggttctg actacatcac ctatgggaat gaatgtcact tgtgtaccga 250
gagcttgaaa agtaatggaa gagttcagtt tcttcacgat ggaagttgct 300
aaattctcca tggacataga gagaaaggaa tgatattctc atcatcatct 350

tcatcatccc aggctctgac tgagtttctt tcagttttac tgatgttctg 400

ggtgggggac agagccagat tcagagtaat cttgactgaa tggagaaagt 450

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<210> 334

<211> 85

<212> PRT

<213> Homo sapiens

<400> 334

Met Lys Ile Thr Gly Gly Leu Leu Leu Cys Thr Val Val Tyr
1 5 10 15

Phe Cys Ser Ser Ser Glu Ala Ala Ser Leu Ser Pro Lys Lys Val 20 25 30

Asp Cys Ser Ile Tyr Lys Lys Tyr Pro Val Val Ala Ile Pro Cys 35 40 45

Pro Ile Thr Tyr Leu Pro Val Cys Gly Ser Asp Tyr Ile Thr Tyr 50 55 60

Gly Asn Glu Cys His Leu Cys Thr Glu Ser Leu Lys Ser Asn Gly
65 70 75

Arg Val Gln Phe Leu His Asp Gly Ser Cys 80 85

<210> 335

<211> 742

<212> DNA

<213> Homo sapiens

<400> 335

cccgcgcccg gttctccctc gcagcacctc gaagtgcgcc cctcgccctc 50 ctgctcgcgc cccgcgcca tggctgcctc ccccgcgcgg cctgctgtcc 100 tggccctgac cgggctggcg ctgctcctgc tcctgtgctg gggcccaggt 150 ggcataagtg gaaataaact caagctgatg cttcaaaaac gagaagcacc 200 tgttccaact aagactaaag tggccgttga tgagaataaa gccaaagaat 250 tccttggcag cctgaagcgc cagaagcggc agctgtgga ccggactcgg 300 cccgaggtgc agcagtggta ccagcagttt ctctacatgg gctttgatga 350 agcgaaatt gaagatgaca tcaccaac gtcaccaac gatcgaaatg 400 gacatgaata ctatggcgat tactaccaac gtcactatga tgaagactct 450 gcaattggtc cccggagccc ctaccggcttt aggcatggag ccagcgtcaa 500 ctaccgatgac tactaaccat gacttgccac acgctgtaca agaagcaaat 550 agcgattctc ttcatgtatc tcctaatgcc ttacactact tggtttctga 600

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<210> 336

<211> 148

<212> PRT

<213> Homo sapiens

<400> 336

Met Ala Ala Ser Pro Ala Arg Pro Ala Val Leu Ala Leu Thr Gly
1 5 10 15

Leu Ala Leu Leu Leu Leu Cys Trp Gly Pro Gly Gly Ile Ser 20 25 30

Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val 35 40 45

Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu
. 50 55 60

Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg
65 70 75

Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met 80 85 90

Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu 95 100 105

Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln 110 115 120

Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr 125 130 135

Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr

<210> 337

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 337

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ageegggege teggtagege ggegggeaag geaggegeea tgaeeetgat 100

tgaaggggtg ggtgatgagg tgaeegteet ttteteggtg ettgeetgee 150

ttetggtget ggeeettgee tgggteteaa egeacacege tgagggeggg 200

gaeecactge eecageegte agggaeeeca aegeeateee ageecagege 250

117 \* (W) 1 1 1 W

agccatggca gctaccgaca gcatgagagg ggaggcccca ggggcagaga 300 ccccagcct gagacacaga ggtcaagctg cacagccaga gcccagcacg 350 gggttcacag caacaccgcc agccccggac tccccgcagg agcccctcgt 400 gctacggctg aaattcctca atgattcaga gcaggtggcc agggcctggc 450 cccacgacac cattggctcc ttgaaaagga cccagtttcc cggccgggaa 500 cagcaggtgc gactcatcta ccaagggcag ctgctaggcg acgacaccca 550 gaccetggge ageetteace teceteecaa etgegttete eactgeeacg 600 tgtccacgag agtcggtccc ccaaatcccc cctgcccgcc ggggtccgag 650 cccggcccct ccgggctgga aatcggcagc ctgctgctgc ccctgctgct 700 cctgctgttg ctgctgctct ggtactgcca gatccagtac cggcccttct 750 ttcccctgac cgccactctg ggcctggccg gcttcaccct gctcctcagt 800 ctcctggcct ttgccatgta ccgcccgtag tgcctccgcg ggcgcttggc 850 ctgcctgccc aggcccgcct ctccggcctg cctcttcccg ctgccctgga 950 gcccagccct gcgccgcaga ggactcccgg gactggcgga ggccccgccc 1000 tgcgaccgcc ggggctcggg gccacctccc ggggctgctg aacctcagcc 1050 cgcactggga gtgggctcct cggggtcggg catctgctgt cgctgcctcg 1100 gccccgggca gagccgggcc gccccggggg cccgtcttag tgttctgccg 1150 gaggacccag ccgcctccaa tccctgacag ctccttgggc tgagttgggg 1200 acgccaggtc ggtgggaggc tggtgaaggg gagcggggag gggcagagga 1250 gttccccgga acccgtgcag attaaagtaa ctgtgaagtt ttaaaaaaaa 1300 aaaaaaaaa 1310

<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

<400> 338

Met Thr Leu Ile Glu Gly Val Gly Asp Glu Val Thr Val Leu Phe 1 5 10 15

Thr His Thr Ala Glu Gly Gly Asp Pro Leu Pro Gln Pro Ser Gly 35 40 45

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Thr Pro Thr Pro Ser Gln Pro Ser Ala Ala Met Ala Ala Thr Asp
Ser Met Arg Gly Glu Ala Pro Gly Ala Glu Thr Pro Ser Leu Arg
                65
His Arg Gly Gln Ala Ala Gln Pro Glu Pro Ser Thr Gly Phe Thr
Ala Thr Pro Pro Ala Pro Asp Ser Pro Gln Glu Pro Leu Val Leu
                                  100
                95
Arg Leu Lys Phe Leu Asn Asp Ser Glu Gln Val Ala Arg Ala Trp
                                  115
               110
Pro His Asp Thr Ile Gly Ser Leu Lys Arg Thr Gln Phe Pro Gly
                                  130
               125
Arg Glu Gln Gln Val Arg Leu Ile Tyr Gln Gly Gln Leu Leu Gly
Asp Asp Thr Gln Thr Leu Gly Ser Leu His Leu Pro Pro Asn Cys
                                  160
Val Leu His Cys His Val Ser Thr Arg Val Gly Pro Pro Asn Pro
                                  175
Pro Cys Pro Pro Gly Ser Glu Pro Gly Pro Ser Gly Leu Glu Ile
                                  190
               185
205
                200
Trp Tyr Cys Gln Ile Gln Tyr Arg Pro Phe Phe Pro Leu Thr Ala
                215
                                   220
Thr Leu Gly Leu Ala Gly Phe Thr Leu Leu Leu Ser Leu Leu Ala
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Phe Ala Met Tyr Arg Pro
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<210> 339

<211> 849

<212> DNA

<213> Homo sapiens

<400> 339
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tgccctctcc agattcccca ggctctcaga gaagatcagc agaaagtctg 100

caagacccta agaaccatca gccctcagct gcacctcctc ccctccaagg 150

atgacaaagg cgctactcat ctatttggtc agcagctttc ttgccctaaa 200

tcaggccagc ctcatcagtc gctgtgactt ggcccaggtg ctgcagctgg 250

aggacttgga tgggtttgag ggttactcc tgagtgactg gctgtgcctg 300 gcttttgtgg aaagcaagtt caacatatca aagataaatg aaaatgcgga 350 tggaagcttt gactatggcc tcttccagat caacagccac tactggtgca 400 acgattataa gagttactcg gaaaaccttt gccacgtaga ctgtcaagat 450 ctgctgaatc ccaaccttct tgcaggcatc cactgcgcaa aaaggattgt 500 gtccggagca cgggggatga acaactgggt agaatggagg ttgcactgtt 550 caggccggcc actctcctac tggctgacag gatgccgcct gagatgaaac 600 agggtgcggg tgcaccgtgg agtcattcca agactcctgt cctcactcag 650 ggattcttca tttcttctc ctactgcctc cacttcatgt tatttcttc 700 ccttcccatt tacaactaaa actgaccaga gccccaggaa taaatggttt 750 tcttggcttc ctccttactc ccactctggac ccagtccct ggttcctgtc 800 tgttatttgt aaactgagga ccacaataaa gaaatcttta tatttatcg 849

<210> 340

<211> 148

<212> PRT

<213> Homo sapiens

<400> 340

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Leu Asn Gln Ala Ser Leu Ile Ser Arg Cys Asp Leu Ala Gln Val 20 25 30

Leu Gln Leu Glu Asp Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser 35 40 45

Asp Trp Leu Cys Leu Ala Phe Val Glu Ser Lys Phe Asn Ile Ser 50 55

Lys Ile Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe
65 70 75

Gln Ile Asn Ser His Tyr Trp Cys Asn Asp Tyr Lys Ser Tyr Ser 80 85 90

Glu Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn 95 100 105

Leu Leu Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser Gly Ala 110 115 120

Arg Gly Met Asn Asn Trp Val Glu Trp Arg Leu His Cys Ser Gly 125 130

Arg Pro Leu Ser Tyr Trp Leu Thr Gly Cys Arg Leu Arg

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<210> 341
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 341
 ccctccaagg atgacaaagg cgc 23
<210> 342
<211> 29
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-29
<223> Synthetic construct.
<400> 342
 ggtcagcagc tttcttgccc taaatcagg 29
<210> 343
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 343
 atctcaggcg gcatcctgtc agcc 24
<210> 344
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 344
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<210> 345
<211> 45
<212> DNA
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<213> Artificial

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<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 345
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<210> 346
<211> 2575
<212> DNA
<213> Homo sapiens
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<400> 346 tctgacctga ctggaagcgt ccaaagaggg acggctgtca gccctgcttg 50 actgagaacc caccagctca tcccagacac ctcatagcaa cctatttata 100 caaaggggga aagaaacacc tgagcagaat ggaatcatta ttttttccc 150 gtgaatgggc tttcagaagg caattaaaga aatccactca gagaggactt 250 ggggtgaaac ttgggtcctg tggttttctg attgtaagtg gaagcaggtc 300 ttgcacacgc tgttggcaaa tgtcaggacc aggttaagtg actggcagaa 350 aaacttccag gtggaacaag caacccatgt tctgctgcaa gcttgaagga 400 gcctggagcg ggagaaagct aacttgaaca tgacctgttg catttggcaa 450 gttctagcaa catgctccta aggaagcgat acaggcacag accatgcaga 500 ctccagttcc tcctgctgct cctgatgctg ggatgcgtcc tgatgatggt 550 ggcgatgttg caccetecee accaeacet geaceagaet gteacageee 600 aagccagcaa gcacagccct gaagccaggt accgcctgga ctttggggaa 650 tcccaggatt gggtactgga agctgaggat gagggtgaag agtacagccc 700 tctggagggc ctgccaccct ttatctcact gcgggaggat cagctgctgg 750 tggccgtggc cttaccccag gccagaagga accagagcca gggcaggaga 800 ggtgggaget accgcctcat caagcagcca aggaggcagg ataaggaage 850 cccaaagagg gactgggggg ctgatgagga cggggaggtg tctgaagaag 900 aggagttgac cccgttcagc ctggacccac gtggcctcca ggaggcactc 950 agtgcccgca tcccctcca gagggctctg cccgaggtgc ggcacccact 1000 gtgtctgcag cagcacctc aggacagcct gcccacagcc agcgtcatcc 1050 tctgtttcca tgatgaggcc tggtccactc tcctgcggac tgtacacagc 1100

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## tatttcattq actgctggct gctta 2575

<210> 347

<211> 639

<212> PRT

<213> Homo sapiens

<400> 347

Met Leu Leu Arg Lys Arg Tyr Arg His Arg Pro Cys Arg Leu Gln
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Phe Leu Leu Leu Leu Met Leu Gly Cys Val Leu Met Met Val 20 25 30

Ala Met Leu His Pro Pro His His Thr Leu His Gln Thr Val Thr
35 40 45

Ala Gln Ala Ser Lys His Ser Pro Glu Ala Arg Tyr Arg Leu Asp
50 55 60

Phe Gly Glu Ser Gln Asp Trp Val Leu Glu Ala Glu Asp Glu Gly 65 70 75

Glu Glu Tyr Ser Pro Leu Glu Gly Leu Pro Pro Phe Ile Ser Leu 80 85 90

Arg Glu Asp Gln Leu Leu Val Ala Val Ala Leu Pro Gln Ala Arg 95 100 105

Arg Asn Gln Ser Gln Gly Arg Arg Gly Gly Ser Tyr Arg Leu Ile 110 115 120

Lys Gln Pro Arg Arg Gln Asp Lys Glu Ala Pro Lys Arg Asp Trp
125 130 130

Gly Ala Asp Glu Asp Gly Glu Val Ser Glu Glu Glu Glu Leu Thr

Pro Phe Ser Leu Asp Pro Arg Gly Leu Gln Glu Ala Leu Ser Ala 155 160 165

Arg Ile Pro Leu Gln Arg Ala Leu Pro Glu Val Arg His Pro Leu 170 175 180

Cys Leu Gln Gln His Pro Gln Asp Ser Leu Pro Thr Ala Ser Val 185 190 195

Ile Leu Cys Phe His Asp Glu Ala Trp Ser Thr Leu Leu Arg Thr 200 205 210

Val His Ser Ile Leu Asp Thr Val Pro Arg Ala Phe Leu Lys Glu 215 220 225

Ile Ile Leu Val Asp Asp Leu Ser Gln Gln Gly Gln Leu Lys Ser 230 235

Ala Leu Ser Glu Tyr Val Ala Arg Leu Glu Gly Val Lys Leu Leu 245 250

Arg	Ser	Asn	Lys	Arg 260	Leu	Gly	Ala	Ile	Arg 265	Ala	Arg	Met	Leu	Gly 270
Ala	Thr	Arg	Ala	Thr 275	Gly	Asp	Val	Leu	Val 280	Phe	Met	Asp	Ala	His 285
Cys	Glu	Cys	His	Pro 290	Gly	Trp	Leu	Glu	Pro 295	Leu	Leu	Ser	Arg	Ile 300
Ala	Gly	Asp	Arg	Ser 305	Arg	Val	Val	Ser	Pro 310	Val	Ile	Asp	Val	Ile 315
Asp	Trp	Lys	Thr	Phe 320	Gln	Tyr	Tyr	Pro	Ser 325	Lys	Asp	Leu	Gln	Arg 330
Gly	Val	Leu	Asp	Trp 335	Lys	Leu	Asp	Phe	His 340	Trp	Glu	Pro	Leu	Pro 345
Glu	His	Val	Arg	Lys 350	Ala	Leu	Gln	Ser	Pro 355	Ile	Ser	Pro	Ile	Arg 360
Ser	Pro	Val	Val	Pro 365	Gly	Glu	Val	Val	Ala 370	Met	Asp	Arg	His	Tyr 375
Phe	Gln	Asn	Thr	Gly 380	Ala	Tyr	Asp	Ser	Leu 385	Met	Ser	Leu	Arg	Gly 390
Gly	Glu	Asn	Leu	Glu 395	Leu	Ser	Phe	Lys	Ala 400	Trp	Leu	Cys	Gly	Gly 405
Ser	Val	Glu	Ile	Leu 410	Pro	Cys	Ser	Arg	Val 415	Gly	His	Ile	Tyr	Gln 420
Asn	Gln	Asp	Ser	His 425	Ser	Pro	Leu	Asp	Gln 430	Glu	Ala	Thr	Leu	Arg 435
Asn	Arg	Val	Arg	Ile 440	Ala	Glu	Thr	Trp	Leu 445	Gly	Ser	Phe	Lys	Glu 450
Thr	Phe	Tyr	Lys	His 455		Pro	Glu	Ala	Phe 460	Ser	Leu	Ser	Lys	Ala 465
Glu	Lys	Pro	Asp	Cys 470		Glu	Arg	Leu	Gln 475	Leu	Gln	Arg	Arg	Leu 480
Gly	Cys	Arg	Thr	Phe 485		Trp	Phe	Leu	Ala 490	Asn	Val	Tyr	Pro	Glu 495
Leu	Tyr	Pro	Ser	Glu 500	Pro	Arg	Pro	Ser	Phe 505	Ser	Gly	Lys	Leu	His 510
Asn	Thr	Gly	Leu	Gly 515		Cys	Ala	Asp	Cys 520		Ala	Glu	Gly	Asp 525
Ile	Leu	Gly	, Cys	Pro 530		. Val	. Leu	Ala	Pro 535	Cys	Ser	: Asp	Ser	Arg 540
Gln	Gln	Glr	туг	Leu	Gln	His	Thr	Ser	Arg	Lys	Glu	ıle	His	Phe

555 550 545 Gly Ser Pro Gln His Leu Cys Phe Ala Val Arg Gln Glu Gln Val 565 Ile Leu Gln Asn Cys Thr Glu Glu Gly Leu Ala Ile His Gln Gln 580 575 His Trp Asp Phe Gln Glu Asn Gly Met Ile Val His Ile Leu Ser 595 590 Gly Lys Cys Met Glu Ala Val Val Gln Glu Asn Asn Lys Asp Leu 610 605 Tyr Leu Arg Pro Cys Asp Gly Lys Ala Arg Gln Gln Trp Arg Phe Asp Gln Ile Asn Ala Val Asp Glu Arg <210> 348 <211> 23 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct. <400> 348 ggagaggtgg tggccatgga cag 23 <210> 349 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 349 ctgtcactgc aaggagccaa cacc 24 <210> 350 <211> 45 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-45 <223> Synthetic construct. <400> 350 tatgtcgctg cgaggtggtg aaaacctcga actgtctttc aaggc 45

<210> 351 <211> 2524 <212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;210> 352

<sup>&</sup>lt;211> 243

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg
Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala
Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro
Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys
Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn
                                    100
Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu
                                    115
Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser
                125
                                    130
Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
                140
Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
                155
Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
                                                        180
                170
Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
                185
Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
                                                        210
                200
Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Glu Glu
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Leu Pro Lys

<210> 353

<211> 480

<212> DNA

<213> Homo sapiens

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cegtggagag caccageece ggeeggage eegtggaeae eggteeeeca 250
geeceeaeeg tegegeeagg accegaggae ageaeeggee aggagegget 300
ggaecaggge ggegggtege tggggeeegg egetategeg geeategtga 350
tegeegeeet getggeeaee tgegtggtge tggegetegt ggtegtege 400
ctgagaaagt tttetgeete etgaagegaa taaaggggee gegeeeggee 450
geggegegae teggeaaaaa aaaaaaaaa 480

<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354

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Pro Val Pro Thr Leu Trp Asn Glu Pro Ala Glu Leu Pro Ser Gly 35 40 45

Glu Gly Pro Val Glu Ser Thr Ser Pro Gly Arg Glu Pro Val Asp 50 55 60

Thr Gly Pro Pro Ala Pro Thr Val Ala Pro Gly Pro Glu Asp Ser 65 70 75

Thr Ala Gln Glu Arg Leu Asp Gln Gly Gly Gly Ser Leu Gly Pro 80 85 90

Gly Ala Ile Ala Ala Ile Val Ile Ala Ala Leu Leu Ala Thr Cys 95 100 105

Val Val Leu Ala Leu Val Val Val Ala Leu Arg Lys Phe Ser Ala 110 115 120

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

<400> 356

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His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser 20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp 35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr 50 55 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu 65 70 75

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln 80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu 95 100

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala 110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gln 125 130 130

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro

Ser Pro Arg Gly Asp Leu Pro 155

<210> 357

<211> 1536

<212> DNA

<213> Homo sapiens

<400> 357

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<210> 358

<211> 273

<212> PRT

<213> Homo sapiens

<400> 358

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Thr Cys Glu Leu Ala Ala Glu Val Ala Ala Glu Val Glu Lys Ser 20 25 30

Ser Asp Gly Pro Gly Ala Ala Gln Glu Pro Thr Trp Leu Thr Asp 35 40 45

Val Pro Ala Ala Met Glu Phe Ile Ala Ala Thr Glu Val Ala Val 50 55 60

Ile Gly Phe Phe Gln Asp Leu Glu Ile Pro Ala Val Pro Ile Leu 65 70 75

His Ser Met Val Gln Lys Phe Pro Gly Val Ser Phe Gly Ile Ser 80 85 90

Thr Asp Ser Glu Val Leu Thr His Tyr Asn Ile Thr Gly Asn Thr 95 100 105

Ile Cys Leu Phe Arg Leu Val Asp Asn Glu Gln Leu Asn Leu Glu 110 115 120

Asp Glu Asp Ile Glu Ser Ile Asp Ala Thr Lys Leu Ser Arg Phe 125 130 135

Ile Glu Ile Asn Ser Leu His Met Val Thr Glu Tyr Asn Pro Val 140 145 150

Thr Val Ile Gly Leu Phe Asn Ser Val Ile Gln Ile His Leu Leu 155 160 165

Leu Ile Met Asn Lys Ala Ser Pro Glu Tyr Glu Glu Asn Met His 170 175 180

Arg Tyr Gln Lys Ala Ala Lys Leu Phe Gln Gly Lys Ile Leu Phe 185 190 195

<210> 362

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 Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr
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                 215
 Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val
 Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly
Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys
Val Glu Leu
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<222> 1-24
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<223> Synthetic construct.
<400> 361
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<211> 1777
<212> DNA
<213> Homo sapiens
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 cctcagcggg gacccgggct cagggacgcg gcggcggcgg cggcgactgc 150
 agtggctgga cgatggcagc gtccgccgga gccggggcgg tgattgcagc 200
 cccagacagc cggcgctggc tgtggtcggt gctggcggcg gcgcttgggc 250
 tcttgacage tggagtatca gccttggaag tatatacgcc aaaagaaatc 300
 ttcgtggcaa atggtacaca agggaagctg acctgcaagt tcaagtctac 350
 tagtacgact ggcgggttga cctcagtctc ctggagcttc cagccagagg 400
 gggccgacac tactgtgtcg tttttccact actcccaagg gcaagtgtac 450
 cttgggaatt atccaccatt taaagacaga atcagctggg ctggagacct 500
 tgacaagaaa gatgcatcaa tcaacataga aaatatgcag tttatacaca 550
 atggcaccta tatctgtgat gtcaaaaacc ctcctgacat cgttgtccag 600
 cctggacaca ttaggctcta tgtcgtagaa aaagagaatt tgcctgtgtt 650
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 ctctgctcat cagcatgatt ctggctgtcc tctatagaag gaaaaactct 750
 aaacgggatt acactggctg cagtacatca gagagtttgt caccagttaa 800
 gcaggctcct cggaagtccc cctccgacac tgagggtctt gtaaagagtc 850
 tgccttctgg atctcaccag ggcccagtca tatatgcaca gttagaccac 900
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tccggcggac atcacagtga caagattaac aagtcagagt ctgtggtgta 950

tgcggatatc cgaaagaatt aagagaatac ctagaacata tcctcagcaa 1000

gaaacaaaac caaactggac tctcgtgcag aaaatgtagc ccattaccac 1050 atgtagcctt ggagacccag gcaaggacaa gtacacgtgt actcacagag 1100 ggagagaaag atgtgtacaa aggatatgta taaatattct atttagtcat 1150 cctgatatga ggagccagtg ttgcatgatg aaaagatggt atgattctac 1200 atatgtaccc attgtcttgc tgtttttgta ctttcttttc aggtcattta 1250 caattgggag atttcagaaa cattcctttc accatcattt agaaatggtt 1300 tgccttaatg gagacaatag cagatcctgt agtatttcca gtagacatgg 1350 ccttttaatc taagggctta agactgatta gtcttagcat ttactgtagt 1400 tggaggatgg agatgctatg atggaagcat acccagggtg gcctttagca 1450 cagtatcagt accatttatt tgtctgccgc ttttaaaaaa tacccattgg 1500 ctatgccact tgaaaacaat ttgagaagtt tttttgaagt ttttctcact 1550 aaaatatggg gcaattgtta gccttacatg ttgtgtagac ttactttaag 1600 tttgcaccct tgaaatgtgt catatcaatt tctggattca taatagcaag 1650 attagcaaag gataaatgcc gaaggtcact tcattctgga cacagttgga 1700 tcaatactga ttaagtagaa aatccaagct ttgcttgaga acttttgtaa 1750 cgtggagagt aaaaagtatc ggtttta 1777

<210> 364 <211> 269

<212> PRT

<213> Homo sapiens

<400> 364

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Ser Arg Arg Trp Leu Trp Ser Val Leu Ala Ala Ala Leu Gly Leu 20 25 30

Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe 50 55 60

Lys Ser Thr Ser Thr Thr Gly Gly Leu Thr Ser Val Ser Trp Ser
65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr

Ser Gln Gly Gln Val Tyr Leu Gly Asn Tyr Pro Pro Phe Lys Asp 95 100 105

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Arg Ile Ser Trp Ala Gly Asp Leu Asp Lys Lys Asp Ala Ser Ile
Asn Ile Glu Asn Met Gln Phe Ile His Asn Gly Thr Tyr Ile Cys
                                                         135
                                     130
                125
Asp Val Lys Asn Pro Pro Asp Ile Val Val Gln Pro Gly His Ile
Arg Leu Tyr Val Val Glu Lys Glu Asn Leu Pro Val Phe Pro Val
                                                         165
Trp Val Val Val Gly Ile Val Thr Ala Val Val Leu Gly Leu Thr
                                     175
                170
Leu Leu Ile Ser Met Ile Leu Ala Val Leu Tyr Arg Arg Lys Asn
                185
Ser Lys Arg Asp Tyr Thr Gly Cys Ser Thr Ser Glu Ser Leu Ser
                200
Pro Val Lys Gln Ala Pro Arg Lys Ser Pro Ser Asp Thr Glu Gly
                215
Leu Val Lys Ser Leu Pro Ser Gly Ser His Gln Gly Pro Val Ile
                 230
Tyr Ala Gln Leu Asp His Ser Gly Gly His His Ser Asp Lys Ile
                 245
Asn Lys Ser Glu Ser Val Val Tyr Ala Asp Ile Arg Lys Asn
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<212> DNA

<213> Homo sapiens

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ccatcagcgc gccgggctgc cgcctctcgg ccacggctgg gtcgggggcc 150

tcgggctggg gctggggctg gcgctcgggg tgaagctggc aggtgggctg 200

aggggcgcgg ccccggcga gtcccccgcg gcccccgacc ctgaggcgtc 250

gcctctggcc gagccgcac aggagcagtc cctcgcccg tggtctccgc 300

agaccccggc gccgcctgc tccaggtgct tcgccagagc catcgagagc 350

agccgcgacc tgctgcacag gatcaaggat gaggtgggcg caccgggcat 400

agtggttgga gttctgtag atggaaaaga agtctggtca gaaggtttag 450

gttatgctga tgttgagaac cgtgtaccat gtaaaccaga gacagttatg 500

111

cgaattgcta gcatcagcaa aagtctcacc atggttgctc ttgccaaatt 550 gtgggaagca gggaaactgg atcttgatat tccagtacaa cattatgttc 600 ccgaattccc agaaaaagaa tatgaaggtg aaaaggtttc tgtcacaaca 650 agattactga tttcccattt aagtggaatt cgtcattatg aaaaggacat 700 aaaaaaggtg aaagaagaga aagcttataa agccttgaag atgatgaaag 750 agaatgttgc atttgagcaa gaaaaagaag gcaaaagtaa tgaaaagaat 800 gattttacta aatttaaaac agagcaggag aatgaagcca aatgccggaa 850 ttcaaaacct ggcaagaaaa agaatgattt tgaacaaggc gaattatatt 900 tgagagaaaa gtttgaaaat tcaattgaat ccctaagatt atttaaaaat 950 gatcctttgt tcttcaaacc tggtagtcag tttttgtatt caacttttgg 1000 ctatacccta ctggcagcca tagtagagag agcttcagga tgtaaatatt 1050 tggactatat gcagaaaata ttccatgact tggatatgct gacgactgtg 1100 caggaagaaa acgagccagt gatttacaat agagcaaggt aaatgaatac 1150 cttctgctgt gtctagctat atcgcatctt aacactattt tattaattaa 1200 aagtcaaatt ttctttgttt ccattccaaa atcaacctgc cacattttgg 1250 gagettttet acatgtetgt ttteteatet gtaaagtgaa ggaagtaaaa 1300 catgtttata aagtaaaaaa a 1321

<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

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Gly Gly Leu Ala Ser Ser Cys Gly Arg Arg Gly Val His Gln Arg 20 25 30

Ala Gly Leu Pro Pro Leu Gly His Gly Trp Val Gly Gly Leu Gly 35 40 45

Leu Gly Leu Gly Leu Ala Leu Gly Val Lys Leu Ala Gly Gly Leu
50 55 60

Arg Gly Ala Ala Pro Ala Gln Ser Pro Ala Ala Pro Asp Pro Glu 65 70 75

Ala Ser Pro Leu Ala Glu Pro Pro Gln Glu Gln Ser Leu Ala Pro 80 85 90

Trp	Ser	Pro	Gln	Thr 95	Pro	Ala	Pro	Pro	Cys 100	Ser	Arg	Cys	Phe	Ala 105
Arg	Ala	Ile	Glu	Ser 110	Ser	Arg	Asp	Leu	Leu 115	His	Arg	Ile	Lys	Asp 120
Glu	Val	Gly	Ala	Pro 125	Gly	Ile	Val	Val	Gly 130	Val	Ser	Val	Asp	Gly 135
Lys	Glu	Val	Trp	Ser 140	Glu	Gly	Leu	Gly	Tyr 145	Ala	Asp	Val	Glu	Asn 150
Arg	Val	Pro	Суѕ	Lys 155	Pro	Glu	Thr	Val	Met 160	Arg	Ile	Ala	Ser	Ile 165
Ser	Lys	Ser	Leu	Thr 170	Met	Val	Ala	Leu	Ala 175	Lys	Leu	Trp	Glu	Ala 180
Gly	Lys	Leu	Asp	Leu 185	Asp	Ile	Pro	Val	Gln 190	His	Tyr	Val	Pro	Glu 195
Phe	Pro	Glu	Lys	Glu 200	Tyr	Glu	Gly	Glu	Lys 205	Val	Ser	Val	Thr	Thr 210
Arg	Leu	Leu	Ile	Ser 215	His	Leu	Ser	Gly	Ile 220	Arg	His	Tyr	Glu	Lys 225
Asp	Ile	Lys	Lys	Val 230	Lys	Glu	Glu	Lys	Ala 235	Tyr	Lys	Ala	Leu	Lys 240
Met	Met	Lys	Glu	Asn 245	Val	Ala	Phe	Glu	Gln 250	Glu	Lys	Glu	Gly	Lys 255
Ser	Asn	Glu	Lys	Asn 260	Asp	Phe	Thr	Lys	Phe 265	Lys	Thr	Glu	Gln	Glu 270
Asn	Glu	Ala	Lys	Cys 275	Arg	Asn	Ser	Lys	Pro 280	Gly	Lys	Lys	Lys	Asn 285
Asp	Phe	Glu	Gln	Gly 290	Glu	Leu	Tyr	Leu	Arg 295	Glu	Lys	Phe	Glu	Asn 300
Ser	Ile	Glu	Ser	Leu 305	Arg	Leu	Phe	Lys	Asn 310	Asp	Pro	Leu	Phe	Phe 315
Lys	Pro	Gİy	Ser	Gln 320	Phe	Leu	Tyr	Ser	Thr 325	Phe	Gly	Tyr	Thr	Leu 330
Leu	Ala	Ala	Ile	Val 335	Glu	Arg	Ala	Ser	Gly 340		Lys	Tyr	Leu	Asp 345
Tyr	Met	Gln	Lys	Ile 350		His	Asp	Leu	Asp 355	Met	Leu	Thr	Thr	Val 360
Gln	Glu	Glu	Asn	Glu 365		Val	Ile	Tyr	Asn 370		Ala	Arg		

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<222> 1-30
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<211> 25
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<222> 1-25
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<400> 368
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<400> 369
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<222> 1-41
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<400> 370
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<210> 371
<211> 1150
<212> DNA
<213> Homo sapiens
<400> 371
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131 111

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<sup>&</sup>lt;210> 372

<sup>&</sup>lt;211> 269

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 372

Met Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu 1 5 10 15

Leu Met Ala Val Ala Ala Pro Ser Arg Ala Arg Gly Ser Gly Cys
20 25 30

Arg Ala Gly Thr Gly Ala Arg Gly Ala Gly Ala Glu Gly Arg Glu
35 40 45

Gly Glu Ala Cys Gly Thr Val Gly Leu Leu Leu Glu His Ser Phe Glu Ile Asp Asp Ser Ala Asn Phe Arg Lys Arg Gly Ser Leu Leu 70 Trp Asn Gln Gln Asp Gly Thr Leu Ser Leu Ser Gln Arg Gln Leu Ser Glu Glu Glu Arg Gly Arg Leu Arg Asp Val Ala Ala Leu Asn 100 Gly Leu Tyr Arg Val Arg Ile Pro Arg Arg Pro Gly Ala Leu Asp Gly Leu Glu Ala Gly Gly Tyr Val Ser Ser Phe Val Pro Ala Cys 130 Ser Leu Val Glu Ser His Leu Ser Asp Gln Leu Thr Leu His Val Asp Val Ala Gly Asn Val Val Gly Val Ser Val Val Thr His Pro 155 Gly Gly Cys Arg Gly His Glu Val Glu Asp Val Asp Leu Glu Leu 170 Phe Asn Thr Ser Val Gln Leu Gln Pro Pro Thr Thr Ala Pro Gly 185 Pro Glu Thr Ala Ala Phe Ile Glu Arg Leu Glu Met Glu Gln Ala 200 Gln Lys Ala Lys Asn Pro Gln Glu Gln Lys Ser Phe Phe Ala Lys 215 Tyr Trp Met Tyr Ile Ile Pro Val Val Leu Phe Leu Met Met Ser 230 Gly Ala Pro Asp Thr Gly Gly Gln Gly Gly Gly Gly Gly Gly 245 Gly Gly Gly Ser Gly Leu Cys Cys Val Pro Pro Ser Leu 260

<210> 373

<211> 1706

<212> DNA

<213> Homo sapiens

<400> 373

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ctaaaccccc tggaagggcc tgcagcaatc cctccttcct tcggtttcaa 250 ctggacttct atcaggtcta cttcctggcc ctggcagctg attggcttca 300 ggccccctac ctctataaac tctaccagca ttactacttc ctggaaggtc 350 aaattgccat cctctatgtc tgtggccttg cctctacagt cctctttggc 400 ctagtggcct cctcccttgt ggattggctg ggtcgcaaga attcttgtgt 450 cctcttctcc ctgacttact cactatgctg cttaaccaaa ctctctcaag 500 actactttgt gctgctagtg gggcgagcac ttggtgggct gtccacagcc 550 ctgctcttct cagccttcga ggcctggtat atccatgagc acgtggaacg 600 gcatgacttc cctgctgagt ggatcccagc tacctttgct cgagctgcct 650 tctggaacca tgtgctggct gtagtggcag gtgtggcagc tgaggctgta 700 gccagctgga tagggctggg gcctgtagcg ccctttgtgg ctgccatccc 750 tctcctggct ctggcagggg ccttggccct tcgaaactgg ggggagaact 800 atgaccggca gcgtgccttc tcaaggacct gtgctggagg cctgcgctgc 850 ctcctgtcgg accgccgcgt gctgctgctg ggcaccatac aagctctatt 900 tgagagtgtc atcttcatct ttgtcttcct ctggacacct gtgctggacc 950 cacacggggc ccctctgggc attatcttct ccagcttcat ggcagccagc 1000 ctgcttggct cttccctgta ccgtatcgcc acctccaaga ggtaccacct 1050 tcagcccatg cacctgctgt cccttgctgt gctcatcgtc gtcttctctc 1100 tottcatgtt gactttctct accagoccag gocaggagag tooggtggag 1150 tccttcatag cctttctact tattgagttg gcttgtggat tatactttcc 1200 cagcatgage ttectaegga gaaaggtgat eeetgagaca gageaggetg 1250 gtgtactcaa ctggttccgg gtacctctgc actcactggc ttgcctaggg 1300 ctccttgtcc tccatgacag tgatcgaaaa acaggcactc ggaatatgtt 1350 cagcatttgc tctgctgtca tggtgatggc tctgctggca gtggtgggac 1400 tcttcaccgt ggtaaggcat gatgctgagc tgcgggtacc ttcacctact 1450 gaggagecet atgeceetga getgtaacee caeteeagga caagataget 1500 gggacagact cttgaattcc agctatccgg gattgtacag atctctctgt 1550 gactgacttt gtgactgtcc tgtggtttct cctgccattg ctttgtgttt 1600 gggaggacat gatgggggtg atggactgga aagaaggtgc caaaagttcc 1650 ctctgtgtta ctcccattta gaaaataaac acttttaaat gatcaaaaaa 1700 aaaaaa 1706

<210> 374

<211> 450

<212> PRT

<213> Homo sapiens

<400> 374

Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser 1 5 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly 20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe
35 40 45

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Ala Asp Trp Leu Gln Ala 50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly 65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu 80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys 95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu 110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala 125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala  $140 \,$  145  $\,$  150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu 155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val 170 175 180

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp 185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu 200 205 210

Leu Ala Leu Ala Gly Ala Leu Ala Leu Arg Asn Trp Gly Glu Asn 215 220 225

Tyr Asp Arg Gln Arg Ala Phe Ser Arg Thr Cys Ala Gly Gly Leu 230 235 240

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Arg Cys Leu Leu Ser Asp Arg Arg Val Leu Leu Gly Thr Ile
Gln Ala Leu Phe Glu Ser Val Ile Phe Ile Phe Val Phe Leu Trp
                                                         270
                                    265
                260
Thr Pro Val Leu Asp Pro His Gly Ala Pro Leu Gly Ile Ile Phe
Ser Ser Phe Met Ala Ala Ser Leu Leu Gly Ser Ser Leu Tyr Arg
                290
Ile Ala Thr Ser Lys Arg Tyr His Leu Gln Pro Met His Leu Leu
Ser Leu Ala Val Leu Ile Val Val Phe Ser Leu Phe Met Leu Thr
                320
Phe Ser Thr Ser Pro Gly Gln Glu Ser Pro Val Glu Ser Phe Ile
                335
Ala Phe Leu Leu Ile Glu Leu Ala Cys Gly Leu Tyr Phe Pro Ser
                350
Met Ser Phe Leu Arg Arg Lys Val Ile Pro Glu Thr Glu Gln Ala
                365
Gly Val Leu Asn Trp Phe Arg Val Pro Leu His Ser Leu Ala Cys
                380
Leu Gly Leu Leu Val Leu His Asp Ser Asp Arg Lys Thr Gly Thr
                395
Arg Asn Met Phe Ser Ile Cys Ser Ala Val Met Val Met Ala Leu
                410
Leu Ala Val Val Gly Leu Phe Thr Val Val Arg His Asp Ala Glu
                                     430
                425
Leu Arg Val Pro Ser Pro Thr Glu Glu Pro Tyr Ala Pro Glu Leu
                440
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<210> 375

<211> 1098

<212> DNA

<213> Artificial

<400> 375
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 gctccccgcg tgcgtcgcgg cccacggctt ccgtatccat gattatttgt 150
 acttcaagt gctgagtcct ggggacattc gatacatctt cacagccaca 200
 cctgccaagg actttggtgg tatctttcac acaaggtatg agcagattca 250

ccttgtcccc gctgaacctc cagaggcctg cggggaactc agcaacggtt 300 tetteateca ggaccagatt getetggtgg agagggggg etgeteette 350 ctctccaaga ctcgggtggt ccaggagcac ggcgggcggg cggtgatcat 400 ctctgacaac gcagttgaca atgacagctt ctacgtggag atgatccagg 450 acagtaccca gcgcacagct gacatccccg ccctcttcct gctcggccga 500 gacggctaca tgatccgccg ctctctggaa cagcatgggc tgccatgggc 550 catcatttcc atcccagtca atgtcaccag catccccacc tttgagctgc 600 tgcaaccgcc ctggaccttc tggtagaaga gtttgtccca cattccagcc 650 ataagtgact ctgagctggg aaggggaaac ccaggaattt tgctacttgg 700 aatttqqaqa taqcatctqq qqacaaqtqq agccaggtag aggaaaaggg 750 cccagggccc ccaagggtgt ctcatgctac aagaagaggc aagagacagg 850 ccccagggct tctggctaga acccgaaaca aaaggagctg aaggcaggtg 900 gcctgagage catctgtgac ctgtcacact cacctggete cagcetecee 950 tacccagggt ctctgcacag tgaccttcac agcagttgtt ggagtggttt 1000 aaagagctgg tgtttgggga ctcaataaac cctcactgac tttttagcaa 1050 taaaqcttct catcagggtt gcaaaaaaaa aaaaaaaaa aaaaaaaa 1098

<210> 376

<211> 188

<212> PRT

<213> Homo sapiens

<400> 376

Met Val Pro Gly Ala Ala Gly Trp Cys Cys Leu Val Leu Trp Leu
1 5 10 15

Pro Ala Cys Val Ala Ala His Gly Phe Arg Ile His Asp Tyr Leu 20 25 30

Tyr Phe Gln Val Leu Ser Pro Gly Asp Ile Arg Tyr Ile Phe Thr 35 40 45

Ala Thr Pro Ala Lys Asp Phe Gly Gly Ile Phe His Thr Arg Tyr
50 55 60

Glu Gln Ile His Leu Val Pro Ala Glu Pro Pro Glu Ala Cys Gly
65 70 75

Glu Leu Ser Asn Gly Phe Phe Ile Gln Asp Gln Ile Ala Leu Val

```
Glu Arg Gly Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Val Gln 105

Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp 110

Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Ser Thr Gln Arg 135

Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr 150

Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile 165

Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu 180

Leu Gln Pro Pro Trp Thr Phe Trp
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Leu Gln Pro Pro Trp Thr Phe Trp 185

<210> 377

<211> 496

<212> DNA

<213> Artificial

<220>

<221> unsure

<222> 396

<223> unknown base

<210> 378

<211> 116

<212> PRT

<213> Homo sapiens

<400> 378

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Met Glu Leu Ala Leu Leu Cys Gly Leu Val Val Met Ala Gly Val
 Ile Pro Ile Gln Gly Gly Ile Leu Asn Leu Asn Lys Met Val Lys
 Gln Val Thr Gly Lys Met Pro Ile Leu Ser Tyr Trp Pro Tyr Gly
 Cys His Cys Gly Leu Gly Gly Arg Gly Gln Pro Lys Asp Ala Thr
 Asp Trp Cys Cys Gln Thr His Asp Cys Cys Tyr Asp His Leu Lys
 Thr Gln Gly Cys Gly Ile Tyr Lys Asp Asn Asn Lys Ser Ser Ile
 His Cys Met Asp Leu Ser Gln Arg Tyr Cys Leu Met Ala Val Phe
 Asn Val Ile Tyr Leu Glu Asn Glu Asp Ser Glu
                 110
<210> 379
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 379
ctgcctccac tgctctgtgc tggg 24
<210> 380
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 380
cagagcagtg gatgttcccc tggg 24
<210> 381
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
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<223> Synthetic construct.

<400> 381 ctgaacaaga tggtcaagca agtgactggg aaaatgccca tcctc 45

<210> 382

<211> 764

<212> DNA

<213> Homo sapiens

<400> 382 ctcgcttctt ccttctggat gggggcccag ggggcccagg agagtataaa 50 ggcgatgtgg agggtgcccg gcacaaccag acgcccagtc acaggcgaga 100 gccctgggat gcaccggcca gaggccatgc tgctgctgct cacgcttgcc 150 ctcctggggg gccccacctg ggcagggaag atgtatggcc ctggaggagg 200 caagtatttc agcaccactg aagactacga ccatgaaatc acagggctgc 250 gggtgtctgt aggtcttctc ctggtgaaaa gtgtccaggt gaaacttgga 300 gactcctggg acgtgaaact gggagcctta ggtgggaata cccaggaagt 350 caccctgcag ccaggcgaat acatcacaaa agtctttgtc gccttccaag 400 ctttcctccg gggtatggtc atgtacacca gcaaggaccg ctatttctat 450 tttgggaagc ttgatggcca gatctcctct gcctacccca gccaagaggg 500 gcaggtgctg gtgggcatct atggccagta tcaactcctt ggcatcaaga 550 gcattggctt tgaatggaat tatccactag aggagccgac cactgagcca 600 ccagttaatc tcacatactc agcaaactca cccgtgggtc gctagggtgg 650 ggtatggggc catccgagct gaggccatct gtgtggtggt ggctgatggt 700 actggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa 750

gcttctgcag aaaa 764

<210> 383

<211> 178

<212> PRT

<213> Homo sapiens

<400> 383

Met His Arg Pro Glu Ala Met Leu Leu Leu Leu Thr Leu Ala Leu 1 5 10 15

Leu Gly Gly Pro Thr Trp Ala Gly Lys Met Tyr Gly Pro Gly Gly 20 25 30

Gly Lys Tyr Phe Ser Thr Thr Glu Asp Tyr Asp His Glu Ile Thr 35 40 45

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Gly Leu Arg Val Ser Val Gly Leu Leu Leu Val Lys Ser Val Gln 60  
Val Lys Leu Gly Asp Ser Trp Asp Val Lys Leu Gly Ala Leu Gly 75  
Gly Asn Thr Gln Glu Val Thr Leu Gln Pro Gly Glu Tyr Ile Thr 85  
Lys Val Phe Val Ala Phe Gln Ala Phe Gln Ala Phe Leu Arg Gly Met Val Met 105  
Tyr Thr Ser Lys Asp Arg Tyr Phe Tyr Phe Gly Lys Leu Asp Gly 120  
Gln Ile Ser Ser Ala Tyr Pro Ser Gln Glu Gly Gln Val Leu Val 135  
Gly Ile Tyr Asn Tyr Gln Leu Glu Glu Gly Ile Lys Ser Ile Gly 150  
Phe Glu Trp Asn Tyr Ser Ala Asn Ser Pro Val Gly Arg Info Ser In
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<210> 384

<211> 2379

<212> DNA

<213> Homo sapiens

<400> 384
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agctctgtgg ctgaactggg tgctcatcac gggaactgct gggctatgga 100
atacagatgt ggcagctcag gtagccccaa attgcctgga agaatacatc 150
atgttttcg ataagaagaa attgtaggat ccagttttt ttttaaccgc 200
cccctcccca cccccaaaa aaactgtaaa gatgcaaaaa cgtaatatcc 250
atgaagatcc tattacctag gaagattttg atgtttgct gcgaatgcgg 300
tgttgggatt tatttgttct tggagtgtc tgcgtggctg gcaaagaata 350
atgttccaaa atcggtccat ctcccaaggg gtccaatttt tcttcctggg 400
tgtcagcgag ccctgactca ctacagtgca gctgacaggg gctgtcatgc 450
aactggcccc taagccaaag caaaagacct aaggacgacc tttgaacaat 500
acaaaggatg ggtttcaatg taattaggct actgagcgga tcagctgtag 550
cactggttat agccccact gtcttactga caatgctttc ttctgccgaa 600
cgaggatgcc ctaagggctg taggtgtaa ggcaaaatgg tatattgtga 650

atctcagaaa ttacaggaga taccctcaag tatatctgct ggttgcttag 700 gtttgtccct tcgctataac agccttcaaa aacttaagta taatcaattt 750 aaagggctca accagetcae etggetatae ettgaccata accatateag 800 caatattgac gaaaatgctt ttaatggaat acgcagactc aaagagctga 850 ttcttagttc caatagaatc tcctattttc ttaacaatac cttcagacct 900 gtgacaaatt tacggaactt ggatctgtcc tataatcagc tgcattctct 950 gggatctgaa cagtttcggg gcttgcggaa gctgctgagt ttacatttac 1000 ggtctaactc cctgagaacc atccctgtgc gaatattcca agactgccgc 1050 aacctggaac ttttggacct gggatataac cggatccgaa gtttagccag 1100 gaatgtcttt gctggcatga tcagactcaa agaacttcac ctggagcaca 1150 atcaattttc caagctcaac ctggcccttt ttccaaggtt ggtcagcctt 1200 cagaaccttt acttgcagtg gaataaaatc agtgtcatag gacagaccat 1250 gtcctggacc tggagctcct tacaaaggct tgatttatca ggcaatgaga 1300 togaagettt cagtggacce agtgttttcc agtgtgtccc gaatetgcag 1350 cgcctcaacc tggattccaa caagctcaca tttattggtc aagagatttt 1400 ggattcttgg atatccctca atgacatcag tcttgctggg aatatatggg 1450 aatgcagcag aaatatttgc tcccttgtaa actggctgaa aagttttaaa 1500 ggtctaaggg agaatacaat tatctgtgcc agtcccaaag agctgcaagg 1550 agtaaatgtg atcgatgcag tgaagaacta cagcatctgt ggcaaaagta 1600 ctacagagag gtttgatctg gccagggctc tcccaaagcc gacgtttaag 1650 cccaagctcc ccaggccgaa gcatgagagc aaaccccctt tgcccccgac 1700 ggtgggagcc acagagcccg gcccagagac cgatgctgac gccgagcaca 1750 tctctttcca taaaatcatc gcgggcagcg tggcgctttt cctgtccgtg 1800 ctcgtcatcc tgctggttat ctacgtgtca tggaagcggt accctgcgag 1850 catgaagcag ctgcagcagc gctccctcat gcgaaggcac aggaaaaaga 1900 aaagacagtc cctaaagcaa atgactccca gcacccagga attttatgta 1950 gattataaac ccaccaacac ggagaccagc gagatgctgc tgaatgggac 2000 gggaccctgc acctataaca aatcgggctc cagggagtgt gaggtatgaa 2050 ccattgtgat aaaaagagct cttaaaagct gggaaataag tggtgcttta 2100

ttgaactctg gtgactatca agggaacgcg atgcccccc tccccttccc 2150
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tcataatact ggtcattttc ctctcataca taatcaaccc attgaaattt 2250
aaataccaca atcaatgtga agcttgaact ccggtttaat ataataccta 2300
ttgtataaga ccctttactg attccattaa tgtcgcattt gttttaagat 2350
aaaacttctt tcataggtaa aaaaaaaaa 2379

<210> 385

<211> 513

<212> PRT

<213> Homo sapiens

<400> 385

Met Gly Phe Asn Val Ile Arg Leu Leu Ser Gly Ser Ala Val Ala 1 5 10 15

Leu Val Ile Ala Pro Thr Val Leu Leu Thr Met Leu Ser Ser Ala 20 25 30

Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val 35 40 45

Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser 50 55 60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys 65 70 75

Leu Lys Tyr Asn Gln Phe Lys Gly Leu Asn Gln Leu Thr Trp Leu 80 85 90

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe 95 100 105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg 110 115 120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu 125 130 135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser 140 145 150

Glu Gln Phe Arg Gly Leu Arg Lys Leu Leu Ser Leu His Leu Arg 155 160 165

Ser Asn Ser Leu Arg Thr Ile Pro Val Arg Ile Phe Gln Asp Cys 170 175 180

Arg Asn Leu Glu Leu Leu Asp Leu Gly Tyr Asn Arg Ile Arg Ser 185 190 195

Leu Ala Arg Asn Val Phe Ala Gly Met Ile Arg Leu Lys Glu Leu

				200					205					210
His	Leu	Glu	His	Asn 215	Gln	Phe	Ser	Lys	Leu 220	Asn	Leu	Ala	Leu	Phe 225
Pro	Arg	Leu	Val	Ser 230	Leu	Gln	Asn	Leu	Tyr 235	Leu	Gln	Trp	Asn	Lys 240
Ile	Ser	Val	Ile	Gly 245	Gln	Thr	Met	Ser	Trp 250	Thr	Trp	Ser	Ser	Leu 255
Gln	Arg	Leu	Asp	Leu 260	Ser	Gly	Asn	Glu	Ile 265	Glu	Ala	Phe	Ser	Gly 270
Pro	Ser	Val	Phe	Gln 275	Cys	Val	Pro	Asn	Leu 280	Gln	Arg	Leu	Asn	Leu 285
Asp	Ser	Asn	Lys	Leu 290	Thr	Phe	Ile	Gly	Gln 295	Glu	Ile	Leu	Asp	Ser 300
Trp	Ile	Ser	Leu	Asn 305	Asp	Ile	Ser	Leu	Ala 310	Gly	Asn	Ile	Trp	Glu 315
Cys	Ser	Arg	Asn	Ile 320	Cys	Ser	Leu	Val	Asn 325	Trp	Leu	Lys	Ser	Phe 330
Lys	Gly	Leu	Arg	Glu 335	Asn	Thr	Ile	Ile	Cys 340	Ala	Ser	Pro	Lys	Glu 345
Leu	Gln	Gly	Val	Asn 350	Val	Ile	Asp	Ala	Val 355	Lys	Asn	Tyr	Ser	Ile 360
Cys	Gly	Lys	Ser	Thr 365	Thr	Glu	Arg	Phe	Asp 370	Leu	Ala	Arg	Ala	Leu 375
Pro	Lys	Pro	Thr	Phe 380	Lys	Pro	Lys	Leu	Pro 385	Arg	Pro	Lys	His	Glu 390
Ser	Lys	Pro	Pro	Leu 395	Pro	Pro	Thr	Val	Gly 400	Ala	Thr	Glu	Pro	Gly 405
Pro	Glu	Thr	Asp	Ala 410	Asp	Ala	Glu	His	Ile 415	Ser	Phe	His	Lys	Ile 420
Ile	Ala	Gly	Ser	Val 425	Ala	Leu	Phe	Leu	Ser 430	Val	Leu	Val	Ile	Leu 435
Leu	Val	Ile	Tyr	Val 440	Ser	Trp	Lys	Arg	Tyr 445	Pro	Ala	Ser	Met	Lys 450
Gln	Leu	Gln	Gln	Arg 455	Ser	Leu	Met	Arg	Arg 460	His	Arg	Lys	Lys	Lys 465
Arg	Gln	Ser	Leu	Lys 470	Gln	Met	Thr	Pro	Ser 475	Thr	Gln	Glu	Phe	Tyr 480
Val	Asp	Tyr	Lys	Pro 485	Thr	Asn	Thr	Glu	Thr 490	Ser	Glu	Met	Leu	Leu 495

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Cys Glu Val
<210> 386
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 386
ctgggatctg aacagtttcg gggc 24
<210> 387
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 387
ggtccccagg acatggtctg tccc 24
<210> 388
<211> 48
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.
<400> 388
 gctgagttta catttacggt ctaactccct gagaaccatc cctgtgcg 48
<210> 389
<211> 1449
<212> DNA
<213> Homo sapiens
<400> 389
 agttctgaga aagaaggaaa taaacacagg caccaaacca ctatcctaag 50
 ttgactgtcc tttaaatatg tcaagatcca gacttttcag tgtcacctca 100
 gcgatctcaa cgatagggat cttgtgtttg ccgctattcc agttggtgct 150
 ctcggaccta ccatgcgaag aagatgaaat gtgtgtaaat tataatgacc 200
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Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu

aacaccctaa tggctggtat atctggatcc tcctgctgct ggttttggtg 250 gcagctcttc tctgtggagc tgtggtcctc tgcctccagt gctggctgag 300 gagaccccga attgattctc acaggcgcac catggcagtt tttgctgttg 350 gagacttgga ctctatttat gggacagaag cagctgtgag tccaactgtt 400 ggaattcacc ttcaaactca aacccctgac ctatatcctg ttcctgctcc 450 atgttttggc cctttaggct ccccacctcc atatgaagaa attgtaaaaa 500 caacctgatt ttaggtgtgg attatcaatt taaagtatta acgacatctg 550 taattccaaa acatcaaatt taggaatagt tatttcagtt gttggaaatg 600 tccagagatc tattcatata gtctgaggaa ggacaattcg acaaaagaat 650 ggatgttgga aaaaattttg gtcatggaga tgtttaaata gtaaagtagc 700 aggettttga tgtgteactg etgtateata ettttatget acaeaaceaa 750 attaatgctt ctccactagt atccaaacag gcaacaatta ggtgctggaa 800 gtagtttcca tcacatttag gactccactg cagtatacag cacaccattt 850 tctgctttaa actctttcct agcatggggt ccataaaaat tattataatt 900 taacaatagc ccaagccgag aatccaacat gtccagaacc agaaccagaa 950 agatagtatt tgaatgaagg tgaggggaga gagtaggaaa aagaaaagtt 1000 tggagttgaa gggtaaagga taaatgaaga ggaaaaggaa aagattacaa 1050 gtctcagcaa aaacaagagg ttttatgccc caacctgaag aggaagaaat 1100 tgtagataga aggtgaagga gattgctgaa gatatagagc acatataatg 1150 ccaacacggg gagaaaagaa aatttcccct tttacagtaa tgaatgtggc 1200 ctccatagtc catagtgttt ctctggagcc tcagggcttg gcatttattg 1250 cagcatcatg ctaagaacct tcggcatagg tatctgttcc catgaggact 1300 gcagaagtag caatgagaca tottcaagtg gcattttggc agtggccatc 1350 agcaggggga cagacaaaaa catccatcac agatgacata tgatcttcag 1400 ctgacaaatt tgttgaacaa aacaataaac atcaatagat atctaaaaa 1449

<sup>&</sup>lt;210> 390

<sup>&</sup>lt;211> 146

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 390

Met Ser Arg Ser Arg Leu Phe Ser Val Thr Ser Ala Ile Ser Thr 1 5 10 15

```
Ile Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp
Leu Pro Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln
His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu
Val Ala Ala Leu Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys
Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala
Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala
Ala Val Ser Pro Thr Val Gly Ile His Leu Gln Thr Gln Thr Pro
                 110
Asp Leu Tyr Pro Val Pro Ala Pro Cys Phe Gly Pro Leu Gly Ser
                                     130
                 125
Pro Pro Pro Tyr Glu Glu Ile Val Lys Thr Thr
                 140
<210> 391
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 391
cttttcagtg tcacctcagc gatctc 26
<210> 392
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 392
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<210> 393
<211> 47
<212> DNA
<213> Artificial
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<222> 1-47
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<210> 394
<211> 2340
<212> DNA
<213> Homo sapiens
<400> 394
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 gacgcagctg acgcccgctt attagctctc gctgcgtcgc cccggctcag 150
 aageteegtg geggeggega eegtgaegag aageeeaegg eeageteagt 200
 tctcttctac tttgggagag agagaaagtc agatgcccct tttaaactcc 250
 ctcttcaaaa ctcatctcct gggtgactga gttaatagag tggatacaac 300
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 gtctgtttgt ttgcttcttc agaaatgttt tttacaatct caagaaaaaa 450
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 gattgatgtt actgcactat acttttcaac aaccaagaca tcaaagcagt 550
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 aagctctaca cattttcaag gagtatgctg gattcatgga actctaattc 1000
 tgtacataaa aattttaaag ttatttgttt gctttcaggc aagtctgttc 1050
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<sup>&</sup>lt;210> 395

<sup>&</sup>lt;211> 140

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 395

Met Phe Phe Thr Ile Ser Arg Lys Asn Met Ser Gln Lys Leu Ser
1 5 10 15

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Leu Leu Leu Val Phe Gly Leu Ile Trp Gly Leu Met Leu Leu 20 25 30
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His Tyr Thr Phe Gln Gln Pro Arg His Gln Ser Ser Val Lys Leu 35 40 45

Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu 50 55 60

Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser 65 70 75

Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu 80 85 90

Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp 95 100 105

Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr 110 115 120

Ser Gly Asn Leu Val Pro Val Thr Thr Asn Lys Arg Thr Asn Val 125 130 135

Ser Gly Ser Ile Arg 140

<210> 396

<211> 2639

<212> DNA

<213> Homo sapiens

<400> 396

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accttcggcc ttttcgacag cttcagcctg actcgggtgg attgtagcgg 200
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caccagcatc tcacccactg ccttctcccg ccttcgctac ctggagtcgc 400
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agctcacccc tgagcgacgt gaaccttagc cacaaccagc tccgggaggt 500
ctcagtgtct gccttcacga cgcacagtca gggccggca ctacacgtgg 550
acctctccca caacctcatt caccgcctcg tgcccaccc cacgagggcc 600
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ccatgccgtg cccaacctcc gagacttgcc cctgcgctac ctgagcctgg 700 atgggaaccc tctagctgtc attggtccgg gtgccttcgc ggggctggga 750 ggccttacac acctgtctct ggccagcctg cagaggctcc ctgagctggc 800 gcccagtggc ttccgtgagc taccgggcct gcaggtcctg gacctgtcgg 850 gcaaccccaa gcttaactgg gcaggagctg aggtgttttc aggcctgagc 900 tccctgcagg agctggacct ttcgggcacc aacctggtgc ccctgcctga 950 ggcgctgctc ctccacctcc cggcactgca gagcgtcagc gtgggccagg 1000 atgtgcggtg ccggcgcctg gtgcgggagg gcacctaccc ccggaggcct 1050 ggctccagcc ccaaggtgcc cctgcactgc gtagacaccc gggaatctgc 1100 tgccaggggc cccaccatct tgtgacaaat ggtgtggccc agggccacat 1150 aacagactgc tgtcctgggc tgcctcaggt cccgagtaac ttatgttcaa 1200 tgtgccaaca ccagtgggga gcccgcaggc ctatgtggca gcgtcaccac 1250 aggagttgtg ggcctaggag aggctttgga cctgggagcc acacctagga 1300 gcaaagtctc acccctttgt ctacgttgct tccccaaacc atgagcagag 1350 ggacttcgat gccaaaccag actcgggtcc cctcctgctt cccttcccca 1400 cttatccccc aagtgccttc cctcatgcct gggccggcct gacccgcaat 1450 gggcagaggg tgggtgggac cccctgctgc agggcagagt tcaggtccac 1500 tgggctgagt gtccccttgg gcccatggcc cagtcactca ggggcgagtt 1550 tottttotaa catagooott totttgocat gaggooatga ggooogotto 1600 atccttttct atttccctag aaccttaatg gtagaaggaa ttgcaaagaa 1650 tcaagtccac ccttctcatg tgacagatgg ggaaactgag gccttgagaa 1700 ggaaaaaggc taatctaagt teetgeggge agtggeatga etggageaca 1750 gectectgee teccageeeg gaeecaatge aetttettgt etectetaat 1800 aageeceace eteceegeet gggeteeeet tgetgeeett geetgtteee 1850 cattagcaca ggagtagcag cagcaggaca ggcaagagcc tcacaagtgg 1900 gactctgggc ctctgaccag ctgtgcggca tgggctaagt cactctgccc 1950 ttcggagcct ctggaagctt agggcacatt ggttccagcc tagccagttt 2000 ctcaccctgg gttggggtcc cccagcatcc agactggaaa cctacccatt 2050 ttcccctgag catcctctag atgctgcccc aaggagttgc tgcagttctg 2100 <210> 397 <211> 353 <212> PRT

<213> Homo sapiens

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 Phe Pro Gly Cys Gln Cys Glu Val Glu Thr 30

 Phe Gly Leu Phe Asp 35
 Ser Phe Ser Leu Thr Arg Val Asp Cys Ser 45

 Gly Leu Gly Pro His 50
 Ile Met Pro Val Pro 55
 Ile Pro Leu Asp Thr 60

 Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu 75
 Ser Val Leu Ala Gly Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp 90

 Leu Ser His Asn Leu Leu Thr Ser Ile Ser Pro Thr Ala Phe Ser 105
 Arg Leu Arg Tyr Leu Glu Ser Leu Asp Leu Ser His Asn Gly Leu 115

 Val Asn Leu Ser His Asn Glu Ser Phe Thr Ser Ser Pro Leu Ser Asp 135

 Val Asn Leu Ser His Asn Gln Leu Arg Glu Val Ser Val Ser Ala

140

<210> 399 <211> 23 <212> DNA

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His Asn Leu Ile His Arg Leu Val Pro His Pro Thr Arg Ala Gly
                                     175
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Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala Trp Asn Arg
                                     190
                185
Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg Tyr Leu
                                     205
                200
Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala Phe
Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
                                     235
Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
                245
Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala
                260
Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp
                 275
Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu
                                     295
                 290
His Leu Pro Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg
                 305
Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly
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Ser Ser Pro Lys Val Pro Leu His Cys Val Asp Thr Arg Glu Ser
                 335
Ala Ala Arg Gly Pro Thr Ile Leu
                 350
<210> 398
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<222> 1-23
<223> Synthetic construct.
<400> 398
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<213> Artificial
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<222> 1-23
<223> Synthetic construct.
<400> 399
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<222> 1-44
<223> Synthetic construct.
<400> 400
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<211> 1571
<212> DNA
<213> Homo sapiens
<400> 401
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 gaggctatat gcgtcaattc cccaaaacaa gttttgacat ttcccctgaa 150
 atgtcattct ctatctattc actgcaagtg cctgctgttc caggccttac 200
 ctgctqqqca ctaacqqcgg agccaggatg gggacagaat aaaggagcca 250
 cgacctgtgc caccaactcg cactcagact ctgaactcag acctgaaatc 300
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 ttgggaagct gtgtgatcgc cacaaacctt caggaaatac gaaatggatt 500
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 tgctgcctcc tgcgccattt gctaagactc tatctggaca gggtatttaa 650
 aaactaccag acccetgace attatactet eeggaagate ageageeteg 700
 ccaatteett tettaceate aagaaggace teeggetete teatgeceae 750
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<210> 402 <211> 261 <212> PRT

<213> Homo sapiens

<400> 402

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Ser Phe Ser Ile Tyr Ser Leu Gln Val Pro Ala Val Pro Gly Leu 20 25 30

Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys
35 40 45

Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu
50 55 60

Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu
65 70 75

Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser 80 85 90

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Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr Leu Leu Trp Thr
                  95
Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser Cys Val Ile
Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu Ile Arg
Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile Leu
Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys
Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe
Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser
Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu
                 200
 Ser His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys
                 215
Lys Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln
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Ala Ala Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln
Trp Met Glu Glu Thr Glu
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<211> 28
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<222> 1-28
<223> Synthetic construct.
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<210> 404
<211> 26
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<222> 1-26
<223> Synthetic construct.
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<400> 404
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<210> 405
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 accacttatg atacagtgaa acactacttg gtattgaata caccacttga 700
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 cttctattct gggaacacca gccgatgtca tcaaaagcag aataatgaat 800
 caaccacgag ataaacaagg aaggggactt ttgtataaat catcgactga 850
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<210> 406
<211> 323
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<213> Homo sapiens
<400> 406
Met Ser Val Pro Glu Glu Glu Glu Arg Leu Leu Pro Leu Thr Gln
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<210> 407

<211> 31

<212> DNA

<213> Artificial

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<221> Artificial Sequence

<222> 1-31

<223> Synthetic construct.

<400> 407

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<210> 408

<211> 34

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<213> Artificial

<220>

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<222> 1-34

<223> Synthetic construct.

<400> 408

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<210> 409

<211> 1487

<212> DNA

<213> Homo sapiens

<400> 409

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cagcatttaa tgaaaaattt atgcttaaga agtaaaaatg gcaggcttcc 150

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<210> 410

<211> 158

<212> PRT

<213> Homo sapiens

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Ile Asp Trp Ser Glu Arg Arg Asn Ala Val Ala Ser Val Val Ala 20 25 30

Gly Ile Leu Phe Phe Thr Gly Trp Trp Ile Met Ile Asp Ala Ala 35 40 45

Val Val Tyr Pro Lys Pro Glu Gln Leu Asn His Ala Phe His Thr 50 55 60

Cys Gly Val Phe Ser Thr Leu Ala Phe Phe Met Ile Asn Ala Val 65 70 75

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Ser Asn Ala Gln Val Arg Gly Asp Ser Tyr Glu Ser Gly Cys Leu
 Gly Arg Thr Gly Ala Arg Val Trp Leu Phe Ile Gly Phe Met Leu
 Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala
 Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe
 Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe
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 Gly Arg Thr Glu Glu Leu Trp Thr
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<210> 411
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 411
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<210> 412
<211> 20
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<222> 1-20
<223> Synthetic construct.
<400> 412
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<210> 413
<211> 40
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<220>
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<222> 1-40
<223> Synthetic construct.
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<210> 414
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<211> 1337 <212> DNA <213> Homo sapiens

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<210> 415
<211> 224
<212> PRT
<213> Homo sapiens
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 Ile Val Thr Trp Met Phe Ile Arg Ser Tyr Met Ser Phe Ser
Met Lys Thr Ile Arg Leu Pro Arg Trp Leu Ala Ala Ser Pro Thr
Lys Glu Ile Gln Val Lys Lys Tyr Lys Cys Gly Leu Ile Lys Pro
 Cys Pro Ala Asn Tyr Phe Ala Phe Lys Ile Cys Ser Gly Ala Ala
Asn Val Val Gly Pro Thr Met Cys Phe Glu Asp Arg Met Ile Met
 Ser Pro Val Lys Asn Asn Val Gly Arg Gly Leu Asn Ile Ala Leu
 Val Asn Gly Thr Thr Gly Ala Val Leu Gly Gln Lys Ala Phe Asp
                 110
 Met Tyr Ser Gly Asp Val Met His Leu Val Lys Phe Leu Lys Glu
                                     130
                 125
 Ile Pro Gly Gly Ala Leu Val Leu Val Ala Ser Tyr Asp Asp Pro
                 140
 Gly Thr Lys Met Asn Asp Glu Ser Arg Lys Leu Phe Ser Asp Leu
                 155
 Gly Ser Ser Tyr Ala Lys Gln Leu Gly Phe Arg Asp Ser Trp Val
                 170
 Phe Ile Gly Ala Lys Asp Leu Arg Gly Lys Ser Pro Phe Glu Gln
                 185
 Phe Leu Lys Asn Ser Pro Asp Thr Asn Lys Tyr Glu Gly Trp Pro
                 200
 Glu Leu Leu Glu Met Glu Gly Cys Met Pro Pro Lys Pro Phe
                 215
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<211> 21
<212> DNA
<213> Artificial
<220>
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<221> Artificial Sequence

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<222> 1-21
<223> Synthetic construct.
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gccatagtca cgacatggat g 21
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<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 417
ggatggccag agctgctg 18
<210> 418
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 418
aaagtacaag tgtggcctca tcaagc 26
<210> 419
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 419
 tctgactcct aagtcaggca ggag 24
<210> 420
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 420
 attctctcca cagacagctg gttc 24
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<210> 421
<211> 46
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<213> Artificial
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<222> 1-46
<223> Synthetic construct.
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<210> 422
<211> 1701
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 1528
<223> unknown base
<400> 422
 gagactgcag agggagataa agagagagg caaagaggca gcaagagatt 50
 tgtcctgggg atccagaaac ccatgatacc ctactgaaca ccgaatcccc 100
 tggaagccca cagagacaga gacagcaaga gaagcagaga taaatacact 150
 cacgccagga gctcgctcgc tctctctct tctctctcac tcctccctcc 200
 ctctctctct gcctgtccta gtcctctagt cctcaaattc ccagtcccct 250
 gcaccccttc ctgggacact atgttgttct ccgccctcct gctggaggtg 300
 atttggatcc tggctgcaga tgggggtcaa cactggacgt atgagggccc 350
 acatggtcag gaccattggc cagcctctta ccctgagtgt ggaaacaatg 400
 cccagtcgcc catcgatatt cagacagaca gtgtgacatt tgaccctgat 450
 ttgcctgctc tgcagcccca cggatatgac cagcctggca ccgagccttt 500
 ggacctgcac aacaatggcc acacagtgca actctctctg ccctctaccc 550
 tgtatctggg tggacttccc cgaaaatatg tagctgccca gctccacctg 600
 cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650
 tgaagccaca tttgcagagc tccacattgt acattatgac tctgattcct 700
 atgacagett gagtgagget getgagagge etcagggeet ggetgteetg 750
 ggcatcctaa ttgaggtggg tgagactaag aatatagctt atgaacacat 800
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tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850

ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900 cgctacaatg gctcgctcac aactccccct tgctaccaga gtgtgctctg 950 gacagttttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000 ttcaggggac attgttctcc acagaagagg agccctctaa gcttctggta 1050 cagaactacc gagcccttca gcctctcaat cagcgcatgg tctttgcttc 1100 tttcatccaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150 gtgtaggaat cttggttggc tgtctctgcc ttctcctggc tgtttatttc 1200 attgctagaa agattcggaa gaagaggctg gaaaaccgaa agagtgtggt 1250 cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300 catggatgtg gatgacttcc cttcatgcct atcaggaagc ctctaaaatg 1350 gggtgtagga tctggccaga aacactgtag gagtagtaag cagatgtcct 1400 ccttcccctq qacatctctt aqaqaqqaat qqacccaggc tgtcattcca 1450 ggaagaactg cagageette ageeteteea aacatgtagg aggaaatgag 1500 gaaatcgctg tgttgttaat gcagaganca aactctgttt agttgcaggg 1550 qaaqtttqqq atatacccca aagtcctcta ccccctcact tttatggccc 1600 tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650 qaaqttqtat atttttqatc aatatatttg gaaattaaag tttctgactt 1700 t 1701

<210> 423 <211> 337 <212> PRT

<213> Homo sapiens

<400> 423

Met Leu Phe Ser Ala Leu Leu Leu Glu Val Ile Trp Ile Leu Ala 1 5 10 15

Ala Asp Gly Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln  $20 \hspace{1cm} 25 \hspace{1cm} 30$ 

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln 35 40 45

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp
50
60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu 65 70 75

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu

	80		8	5			90
Pro Ser Thr Le	u Tyr Leu 95	Gly Gly	Leu Pr 10		Lys Tyr	Val	Ala 105
Ala Gln Leu Hi	s Leu His 110	Trp Gly	Gln Ly 11		Ser Pro	Gly	Gly 120
Ser Glu His Gl	n Ile Asn 125	Ser Glu	Ala Th		Ala Glu	Leu	His 135
Ile Val His Ty	r Asp Ser 140	Asp Ser	Tyr As		Leu Ser	Glu	Ala 150
Ala Glu Arg Pr	co Gln Gly 155	Leu Ala	Val Le 16		Ile Leu	Ile	Glu 165
Val Gly Glu Th	r Lys Asn 170	Ile Ala	Tyr Gl 17	u His 5	Ile Leu	Ser	His 180
Leu His Glu Va	l Arg His 185	Lys Asp	Gln Ly 19		Ser Val	Pro	Pro 195
Phe Asn Leu Ar	g Glu Leu 200	Leu Pro	Lys Gl 20		Gly Gln	Tyr	Phe 210
Arg Tyr Asn Gl	y Ser Leu 215	Thr Thr	Pro Pr 22		Tyr Gln	Ser	Val 225
Leu Trp Thr Va	al Phe Tyr 230	Arg Arg	Ser Gl 23		Ser Met	Glu	Gln 240
Leu Glu Lys Le	eu Gln Gly 245	Thr Leu	Phe Se 25		Glu Glu	Glu	Pro 255
Ser Lys Leu Le	eu Val Gln 260	Asn Tyr	Arg Al 26		Gln Pro	Leu	Asn 270
Gln Arg Met Va	al Phe Ala 275	Ser Phe	Ile Gl 28		Gly Ser	Ser	Tyr 285
Thr Thr Gly G	Lu Met Leu 290	Ser Leu	Gly Va 29	al Gly 95	Ile Leu	Val	Gly 300
Cys Leu Cys Le	eu Leu Leu 305	Ala Val	Tyr Ph 31		Ala Arg	Lys	Ile 315
Arg Lys Lys A	rg Leu Glu 320	Asn Arg	Lys Se		Val Phe	Thr	Ser 330

Ala Gln Ala Thr Thr Glu Ala 335

<210> 424 <211> 18 <212> DNA

<213> Artificial

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<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
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<210> 425
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 425
cccgatctgc ctgctgta 18
<210> 426
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 426
ctgcactgta tggccattat tgtg 24
<210> 427
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 427
cagaaaccca tgatacccta ctgaacaccg aatcccctgg aagcc 45
<210> 428
<211> 1073
<212> DNA
<213> Homo sapiens
<400> 428
 aatttttcac cagagtaaac ttgagaaacc aactggacct tgagtattgt 50
 acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100
 gattctactg ttttgtcttc taggatcaac tcggtcatta ccacagctca 150
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aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200 ctaccaaacc aacagcagtc aaatcaggtc tttccttctt taagtctgat 250 accattaaca cagatgctca cactggggcc agatctgcat ctgttaaatc 300 ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350 gggttgaatg tacaacagca actgcaccca catgtgttac caatttttgt 400 cacacaactt ggagcccagg gcactatcct aagctcagag gaattgccac 450 aaatcttcac gagcctcatc atccattcct tgttcccggg aggcatcctg 500 cccaccagtc aggcagggc taatccagat gtccaggatg gaagccttcc 550 agcaggagga gcaggtgtaa atcctgccac ccagggaacc ccagcaggcc 600 gcctcccaac tcccagtggc acagatgacg actttgcagt gaccacccct 650 gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700 agcaaatgga attcagtaag ctgtttcaaa ttttttcaac taagctgcct 750 cgaatttggt gatacatgtg aatctttatc attgattata ttatggaata 800 gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850 gaaaatattc ttgaaatttc agaaaatatg ttctatgtag agaatcccaa 900 cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950 tatgctgcct ggatgatatg catattaaaa catatttgga aaactggaaa 1000 aaaaaaaaa aaaaaaaaaa aaa 1073

<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

Met Arg Ser Thr Ile Leu Leu Phe Cys Leu Leu Gly Ser Thr Arg
1 5 10 15

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys  $20 \\ 25 \\ 30$ 

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Gln Ser Asn 35 40 45

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu
50 55 60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met
65 70 75

```
Thr Pro Gly Thr Gln Thr His Pro Leu Thr Leu Gly Gly Leu Asnoya Gln Gln Gln Gln Leu 95 His Pro His Val Leu Ser Ser Glu Glu Leu Pro 120 Gln Leu Gly Ala Gln Gly Thr Ile Leu Ser Ser Glu Glu Leu Pro 120 Gln Ile Phe Thr Ser Leu Ile Ile His Ser Leu Phe Pro Gly Gly 135 Ile Leu Pro Thr Ser Glu Glu Ala Gly Thr Info Gly Thr Pro Ala Gly Arg Leu Pro Thr Pro Gly Gly Thr Pro Ala Gly Arg Leu Pro Thr Pro Gly Gly Thr Asp Asp 180 Asp Phe Ala Val Thr Thr Glu Ser Ala Asn Gly Ile Gln Ile Glu Glu Ala Thr Thr Glu Ser Ala Asn Gly Ile Gln
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<210> 430 <211> 1257 <212> DNA <213> Home Senion

<213> Homo Sapien

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cggagcgcgg cggagccaga cgctgaccac gttcctctcc tcggtctcct 100
ccgcctccag ctccgcgctg cccggcagcc gggagccatg cgaccccagg 150
gccccgccgc ctccccgcag cggctccgcg gcctcctgct gctcctgctg 200
ctgcagctgc ccgcgccgtc gagcgcctct gagatcccca aggggaagca 250
aaaggcgcag ctccggcaga gggaggtggt ggacctgtat aatggaatgt 300
gcttacaagg gccagcaga gtgcctggtc gagacgggag ccctggggcc 350
aatgttattc cgggtacacc tgggatccca ggtcgggatg gattcaaagg 400
agaaaagggg gaatgtctga gggaaagctt tgaggagtcc tggacaccca 450
actacaagca gtgttcatgg agttcattga attatggcat agatcttggg 500
aaaattgcgg agtgtacatt tacaaagatg cgttcaaata gtgctctaag 550
agttttgttc agtggctcac ttcggctaaa atgcagaaat gcatgctgtc 600
agcgttggta tttcacattc aatggagctg aatgttcagg acctcttccc 650

attgaagcta taatttattt ggaccaagga agccctgaaa tgaattcaac 700 aattaatatt catcgcactt cttctgtgga aggactttgt gaaggaattg 750 gtgctggatt agtggatgtt gctatctggg ttggcacttg ttcagattac 800 ccaaaaggag atgcttctac tggatggaat tcagtttctc gcatcattat 850 tgaaggaacta ccaaaataaa tgctttaatt ttcatttgct acctcttttt 900 ttattatgcc ttggaatggt tcacttaaat gacatttaa ataagtttat 950 gtatacatct gaatgaaaag caaagctaaa tatgtttaca gaccaaagtg 1000 tgattcaca ctgttttaa atctagcatt attcatttg cttcaatcaa 1050 aagtggttc aatatttt ttagttggt agaatactt cttcatagtc 1100 acattctcc aacctataat ttggaatatt gttgtggtct tttgttttt 1150 ctcttagtat agcatttta aaaaaatata aaagctacca atctttgtac 1200 aatttgtaaa tgttaagaat ttttttata tctgttaaat aaaaattatt 1250 tccaaca 1257

<210> 431 <211> 243 <212> PRT

<213> Homo Sapien

<400> 431

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
1 5 10 15

Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala 20 25 30

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg
35 40 45

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala 50 55 60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro
65 70 75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys 80 85 90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn 95 100 105

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu 110 115 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser 125 130 135

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Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
                 140
 Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
                 155
                                      160
 Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
                 170
 Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
                 185
 Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
 Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
 Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
 Leu Pro Lys
<210> 432
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Artificial Sequence
<400> 432
aggacttgcc ctcaggaa 18
<210> 433
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 433
cgcaggacag ttgtgaaaat a 21
<210> 434
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 434
atgacgctcg tccaaggcca c 21
<210> 435
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<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 435
cccacctgta ccaccatgt 19
<210> 436
<211> 24
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 436
 actccaggca ccatctgttc tccc 24
<210> 437
<211> 19
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 437
 aagggctggc attcaagtc 19
<210> 438
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 438
 tgacctggca aaggaagaa 19
<210> 439
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 439
 cagccaccct ccagtccaag g 21
<210> 440
<211> 19
<212> DNA
<213> Artificial Sequence
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<220>
<223> Synthetic oligonucleotide probe
<400> 440
 gggtcgtgtt ttggagaga 19
<210> 441
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 441
ctggccctca gagcaccaat 20
<210> 442
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 442
tcctccatca cttcccctag ctcca 25
<210> 443
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 443
 ctggcaggag ttaaagttcc aaga 24
<210> 444
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 444
 aaaggacacc gggatgtg 18
<210> 445
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
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<400> 445
 agcgtacact ctctccaggc aaccag 26
<210> 446
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 446
caattctgga tgaggtggta ga 22
<210> 447
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 447
caggactgag cgcttgttta 20
<210> 448
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 448
caaagcgcca agtaccggac c 21
<210> 449
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 449
ccagacctca gccaggaa 18
<210> 450
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 450
 ccctagctga ccccttca 18
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<210> 451
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 451
tctgacaagc agttttctga atc 23
<210> 452
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 452
ctctcccct cccttttcct ttgttt 26
<210> 453
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 453
ctctggtgcc cacagtga 18
<210> 454
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 454
ccatgcctgc tcagccaaga a 21
<210> 455
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 455
 caggaaatct ggaaacctac agt 23
<210> 456
<211> 20
<212> DNA
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<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 456
ccttgaaaag gacccagttt 20
<210> 457
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 457
 atgagtcgca cctgctgttc cc 22
<210> 458
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 458
tagcagctgc ccttggta 18
<210> 459
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 459
aacagcaggt gcgactcatc ta 22
<210> 460
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 460
 tgctaggcga cgacacccag acc 23
<210> 461
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
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<223> Synthetic oligonucleotide probe
<400> 461
 tggacacgtg gcagtgga 18
<210> 462
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 462
tcatggtctc gtcccattc 19
<210> 463
<211> 27
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 463
 caccatttgt ttctctgtct ccccatc 27
<210> 464
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 464
ccggcatcct tggagtag 18
<210> 465
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 465
 tccccattag cacaggagta 20
<210> 466
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 466
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aggetettge etgteetget get 23
<210> 467
<211> 18
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<220>
<223> Synthetic oligonucleotide probe
<400> 467
gcccagagtc ccacttgt 18
<210> 468
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 468
actgctccgc ctactacga 19
<210> 469
<211> 20
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 469
aggcatcctc gccgtcctca 20
<210> 470
<211> 19
<212> DNA
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